

Land West of Westbury Road, Warminster

Phosphorus Neutrality Report

For: BDW Trading Limited

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Document Status

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Contents

1.0	Executive Summary	1
2.0	Introduction	3
3.0	River Avon SAC	5
4.0	Warminster Waste Water Treatment Works	10
5.0	The Proposed Development and its Design Measures	11
6.0	Statement to Inform the Habitats Regulations Assessment	20
7.0	Summary	22

Appendices

- Appendix 1: Drawings
- Appendix 2: The River Avon SAC
- Appendix 3: Total Phosphorus Budget Calculations (provided separately)

1.0 EXECUTIVE SUMMARY

- 1.1. This report has been produced on behalf of the Applicant, BDW Trading Limited, to provide evidence that the Proposed Development at Land West of Westbury Road, Warminster in Wiltshire will be a phosphorus neutral development that will have no adverse effect on the site integrity of River Avon Special Conservation Area (SAC).
- 1.2. The Proposed Development which is located on a 10.45 hectare (ha) Site on the northern edge of Warminster in Wiltshire comprises:
- 'Erection of up to 205 no. dwellings, community hub, public open space, access, infrastructure and associated works, with all other matters reserved.'*
- 1.3. To enable the Proposed Development to achieve Phosphorus Neutrality 17.85 kg TP/yr credits to off-set nutrients pre-2030 will be purchased from within the River Avon SAC catchment upstream of Warminster Water Treatment Works (WWTW) and the Site to offset the Total Phosphorus produced by the Proposed Development to facilitate commencement of occupation pre-2030. If occupation of the Proposed Development occurs post-2030 then 12.03 kg TP/yr credits would be purchased instead. The credits would be secured through the Section 106 agreement.
- 1.4. Overall, in either scenario it is concluded that the Proposed Development will be Total Phosphorus neutral and will not adversely affect the site integrity of River Avon Special Conservation Area (SAC).

Table 1: Summary of Measures to Ensure Nutrient Neutrality

1. Total Phosphorus Loading from Foul Water • The Proposed Development comprises 205 dwellings. It is assumed that the average occupancy for each dwelling is 2.4 people (national average occupancy). Therefore, there will be a conservative estimate of 492 people residing on the Site. • Water saving measures will be incorporated into each dwelling to reduce water consumption to 110 litres/person/day (l/pp/d) excluding the additional 10l/pp/d required by Natural England to be added to the calculations. • The foul water will be collected and transferred to Warminster WWTW for treatment prior to being discharged into the environment. Warminster WWTW has a current permit limit of 0.5 mg TP/l for Total Phosphorus, which will reduce to 0.25 mg TP/l from 2030 after upgrades to the WWTW. • Pre-2030 the Total Phosphorus load will be 9.70 kg TP/yr. • Post-2030 the Total Phosphorus load will be 4.85 kg TP/yr.
2. Total Phosphorus Loading from Surface Water Run-off from the Proposed Development • The Total Phosphorus loading from surface water run-off from the Proposed Development is the difference in Total Phosphorus loading from the Proposed Development compared to the Total Phosphorus loading from the existing land use being replaced within the Site. • The leachate rates from the existing and proposed land uses originate from the Natural England and Ricardo Nutrient Neutrality Budget Calculator for the River Avon

SAC (May 2025)¹ and assume the land is freely draining with an annual average rainfall of 800.1 – 850mm and lies within a Nitrate Vulnerable Zone (NVZ).

- The existing land use within the Site comprises: 7.44 ha of arable (cereal land) with a leachate rate of 0.12 kg TP/ha/yr; and 3.01 ha of lowland pasture with a leachate rate of 0.07 kg TP/ha/yr, which results in a Total Phosphorus load of **1.12 kg TP/yr.**
- The proposed land use comprises: 4.96 ha of new residential urban area with a leachate rate of 1.65 kg TP/ha/yr; 0.06 ha of new commercial/industrial urban areas (community hub and pumping station) with a leachate rate of 1.21 kg TP/ha/yr; 4.38 ha of greenspace (open space) with a leachate rate of 0.02 kg TP/ha/yr; 0.20 ha of community food growing (allotment) with a leachate rate of 0.09 kg TP/ha/yr; 0.54 ha of water with a leachate rate of 0 kg TP/ha/yr; and 0.31 ha of open urban land (play areas and kickabout area²) with a leachate rate of 0.89 TP/ha/yr. Overall, the proposed land uses will result in an annual phosphorus export of **8.64 kg/TP/yr.**
- The Total Phosphorus change resulting from the land use changes will be **7.52 kg TP/yr.**
- The surface water run-off on the impermeable surfaces within the residential urban area and commercial/industrial urban land will be controlled and treated via a vortex grit separator and detention basin.
- All the surface water run-off on the open urban land, greenspace and community food growing area (allotment) will infiltrate into the ground.
- This will result in **2.35 kg TP/yr** of Total Phosphorus being removed from the surface water run-off via the Proposed Development's SuDS.
- Overall, the net land use Total Phosphorus change will be **5.18 kg TP/yr.**

3. Credits to off-set the Proposed Development's Total Phosphorus load

- Pre-2030 the Total Phosphorus load from the foul water in-conjunction with the land use changes (including removal of Total Phosphorus by SuDS) with the Natural England's 20% buffer would result in **17.85 kg TP/yr** of Total Phosphorus to mitigate through the purchase of off-site credits.
- Post-2030 the Total Phosphorus Load from the foul water in-conjunction with the land use changes (including removal of Total Phosphorus by SuDS) with the Natural England's 20% buffer would result in **12.03 kg TP/yr** of Total Phosphorus to mitigate through the purchase of off-site credits.

¹ <https://www.gov.uk/government/publications/river-avon-sac-nutrient-neutrality-calculator>

² A precautionary approach to using this category has been taken as the land in these uses is proposed to be permeable and naturalistic in form.

2.0 INTRODUCTION

Introduction

- 2.1. This report has been produced on behalf of the Applicant, BDW Trading Limited, to provide evidence that the Proposed Development at Land West of Westbury Road, Warminster in Wiltshire will be a phosphorus neutral development that will have no adverse effect on the site integrity of River Avon Special Conservation Area (SAC). It has been written with due consideration to the Court of Appeal Decision in relation to Wyatt, R. v Fareham Borough Council (2022), EWCA Civ 983 and Natural England's latest letter dated 16 March setting out their '*Advice for development proposals with the potential to affect water quality resulting in adverse nutrient impacts on habitat sites*'³ and the appeal decision dated 15th May 2025 for the original planning application submitted by the Applicant for Land west of Westbury Road, Warminster (APP/Y3940/W/24/3338217).
- 2.2. Nutrient neutrality is a concept promoted by Natural England as '*a means of ensuring that development does not add to existing nutrient burdens*'. By adhering to the concept, developers can provide certainty that their scheme is thus 'deliverable' in line with the requirements of Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) which were highlighted by the recent Dutch Nitrogen Cases⁴.

The Site

- 2.3. The 10.45 ha Site is located on the northern edge of Warminster in Wiltshire, situated between Westbury Road to the east, the elevated Wessex Main railway to the west, houses north of The Woodlands to the south and open fields to the north. The national grid reference for the approximate centre of the Site is ST 87103 46424. The Site is in the jurisdiction of Wiltshire Council.
- 2.4. The Site comprises approximately 7.44 ha of arable and 3.01 ha of pasture (neutral grassland) fields which are bound by hedgerows and shallow drainage ditches. These are the predominant land uses within the Site since 2016⁵ as shown by the Google Earth Images in **Appendix 1**.
- 2.5. The Site overlies chalk formation bedrock with the western area of the Site, adjacent to the watercourse, also overlying superficial deposits of Alluvium – Clay, silt, sand and gravel above the chalk formation. Where the Site (the areas of proposed built development) directly

³ Natural England (16 March 2022) Letter to LPA Chief Executives & Heads of Planning, County Council Chief Executives and Heads of Planning, EA Area and National Team Directors, Planning Inspectorate, Natural Resources Wales (Cross border sites only) & Secretary of State for Department for Levelling Up Housing & Communities titled Advice for development proposals with the potential to affect water quality resulting in adverse nutrient impacts on habitat sites.

⁴ Coöperatie Mobilisation for the Environment and Vereniging Leefmilieu (C-293/17 & C-294/17).

⁵ The last google earth image taken prior to 2016 was in 2005.

overlies chalk formation, the land will be freely draining while the land will have more impeded drainage where superficial deposits occur. The Site lies within a Nitrate Vulnerable Zone (NVZ).

- 2.6. The Site generally falls from the east towards an unnamed watercourse and culvert under the Wessex Mainline railway. Ground levels vary from approximately 127m above Ordnance Datum (AOD) in the east to approximately 113m AOD in the west. Slopes are generally flat to 8% (1:12.5), with a small area in the southeast which is slightly steeper.
- 2.7. There is also an unnamed watercourse flowing through the north-western corner of the Site, which is a tributary of the River Wylye. On leaving the Site, the watercourse flows through a culvert under the Wessex Mainline railway and south to The Were which then flows south-east through Warminster to the River Wylye which is within the River Avon (Hampshire) Special Area of Conservation (SAC) and is one of the five main tributaries to the Hampshire Avon River. The Site is approximately 2.2km north of the River Avon SAC.
- 2.8. The closest Waste Water Treatment Works (WWTW) is Warminster WWTW, approximately 2.4km to the south-west of the Site, which discharges the treated water into the River Wylye within the River Avon SAC.

The Proposed Development

- 2.9. The Proposed Development as shown in **Appendix 1** comprises:
- 'Erection of up to 205 no. dwellings, community hub, public open space, access, infrastructure and associated works, with all other matters reserved.'*
- 2.10. It will comprise: 4.96 ha of residential urban land; 0.06 ha of commercial/industrial urban land (community hub and pumping station); 4.38 ha of greenspace; 0.02 ha of community food growing (allotment); 0.54 ha of water (retention pond) and 0.31 ha of open urban land (play areas and kickabout area⁶). If the Proposed Development does not progress the land will be retained in its existing land uses.

⁶ A precautionary approach to using this category has been taken as the land in these uses is proposed to be permeable and naturalistic in form.

3.0 RIVER AVON SAC

Background

- 3.1. The Hampshire Avon is a groundwater fed chalk river. It rises in the Vale of Pewsey, Wiltshire, and flows south to the English Channel at Christchurch, Dorset, draining an area of about 1,700 km². The whole river is a designated Special Area of Conservation (SAC) supporting a variety of important ecology⁷. The extent of the River Avon SAC is shown in **Appendix 2**⁸.

The Reasons for Designation

- 3.2. The River Avon SAC is characterised by:
- i. Inland water bodies (standing water, running water) (95%);
 - ii. Bogs, marshes, water fringed vegetation, fens (2%);
 - iii. Heath, scrub, *Maquis* and *Garrigue*, *Phygrana* (2%); and
 - iv. Broad leaved deciduous woodland (1%).
- 3.3. 'Watercourses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation' is the Annex 1 habitat which is the primary reason for the designation. The large lowland river system includes sections flowing through chalk and clay, with transitions between the two. Five aquatic *Ranunculus* species occur in the river system, but stream water-crowfoot *Ranunculus penicillatus* ssp. *pseudofluitans* and river water-crowfoot *R. fluitans* are the main dominants. Some winterbourne reaches, where *R. peltatus* is the dominant water-crowfoot species, are included in the SAC.
- 3.4. The River Avon SAC is also designated for the presence of the following Annex II species:
- i. Desmoulin's whorl snail *Vertigo moulinsiana*;
 - ii. Sea lamprey *Petromyzon marinus*;
 - iii. Brook lamprey *Lampetra planeri*;
 - iv. Atlantic salmon *Salmo salar*; and
 - v. Bullhead *Cottus gobio*⁹.

Conservation Objectives for the River Avon SAC

- 3.5. The Conservation Objectives for the River Avon SAC are to:

⁷ <https://cms.wiltshire.gov.uk/documents/s157886/HRA0501RiverAvonSACPhosphateIDPMainReport.pdf>

⁸ Extract from River Avon SAC planning forum (undated) Protecting the River Avon SAC/SSSI <https://www.wiltshire.gov.uk/media/993/Protecting-the-River-Avon-SAC/pdf/Protecting-river-avon-sac-biodiversity.pdf?m=637183939031430000>

⁹ <https://sac.jncc.gov.uk/site/UK0013016>

‘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 qualifying natural habitats and habitats of qualifying species*
- The structure and function (including typical species) of qualifying natural habitats*
- The structure and function of the habitats of qualifying species*
- The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely*
- The populations of qualifying species, and*
- The distribution of qualifying species within the site’.*

Key Issues for Maintaining the River Avon SAC

3.6. The key issues for achieving the Conservation Objectives and maintaining the integrity of the River Avon SAC site relate to:

- i. Physical modification;
- ii. Siltation;
- iii. Water pollution;
- iv. Water abstraction;
- v. Change in species distribution;
- vi. Invasive species;
- vii. Public access/disturbance;
- viii. Hydrological changes;
- ix. Inappropriate weed control;
- x. Change in land management; and
- xi. Habitat fragmentation¹⁰.

3.7. This report concentrates on effects from the Proposed Development on water quality. The remaining key issues are addressed separately in the Shadow Habitats Regulations Assessment – River Avon SAC and Salisbury Plain SPA¹¹.

¹⁰ Natural England (undated) Improvement Programme for England’s Natura 2000 Sites (IPENS). Planning for the Future. Site Improvement Plan Avon River and Valley.

¹¹ Ethos Environmental Planning (2025) Shadow Habitats Regulations Assessment – River Avon SAC and Salisbury Plain SPA, New Farm, Warminster

- 3.8. This report concentrates on effects from the Proposed Development on water quality as Natural England's position is that elevated levels of Total Phosphorus within the River Avon SAC are having a detrimental effect on the ecology and biodiversity of the River Avon SAC, through increasing levels of eutrophication. There are two principal sources of Total Phosphorus in rivers: effluent discharges from sewage treatment works; and diffuse phosphorus pollution, mainly in runoff from agricultural land. Wessex Water made significant investments in infrastructure between 2005 and 2015 to reduce phosphorus loads in sewage effluent.
- 3.9. In 2015, the 'River Avon SAC Nutrient Management Plan for Phosphorus'¹² proposed nutrient levels for the River Wylde of 50 ug/l¹³. This was to be achieved through action on diffuse sources and, where necessary, through further point source measures. Any point source improvements to a water company asset would be implemented under Asset Management Plan (AMP) 7 period (2020-2025).
- 3.10. However, the Environment Agency and Natural England issued a joint statement on 9th March 2018 via email to Wiltshire Council, New Forest District Council and East Dorset, Christchurch Council which said:
- 'Evidence suggests that the targets in the Hampshire Avon nutrient management plan are unlikely to be delivered by 2021. We are modelling what this means for the Nutrient Management Plan, and will be providing recommendations in March 2019.*
- We know that there will be new development and we advise that the new development within the catchment of the Hampshire Avon needs to be "phosphate neutral" '....*
- 3.11. The approach of phosphorus neutral residential and overnight accommodation development applies to authorisations given after 9 March 2018 and that result in a net increase in dwellings and developments with overnight accommodation within the River Avon SAC catchment¹⁴. The approach applies to local plans with a plan area that involves land within the catchment area¹⁵.
- 3.12. In summary, Natural England acknowledge that developers are not being requested to solve the problem or help manage River Avon SAC, but instead developers of new residential and overnight accommodation developments within the catchment of the River Avon SAC, including the Proposed Development, are required beyond reasonable scientific doubt to

¹² Wiltshire Council, Natural England and Environment Agency (30 April 2015) River Avon Special Area of Conservation, Nutrient Management Plan for Phosphorus. Final version.

¹³ David Tyldesley and Associates (April 2015) River Avon Special Area of Conservation Nutrient Management Plan for Phosphorus

¹⁴ The catchment for the River Avon SAC is considered as a whole in terms of Nutrient Neutrality. Sub-catchments associated with the tributaries for the River Avon have not currently been identified within Natural England's written guidance.

¹⁵ Memorandum of Understanding River Avon Special Area of Conservation Phosphate Neutral Development – Interim Mitigation

prevent any additional Total Phosphorus being released into the River Avon SAC as a result of construction and/or operation of such developments.

Background to Phosphorus

- 3.13. Total Phosphorus occurs mostly as phosphates. The forms are described as:
- i. Orthophosphates (reactive phosphates) which are generally used in agriculture i.e. as fertilisers;
 - ii. Polyphosphates (inorganic) which contain salts and/or metals and are generally associated with food additives etc.; and
 - iii. Organic phosphates which are those formed by biological processes and are mostly found in human effluent.
- 3.14. There is growing scientific literature which shows that the ability of biota to take up a given phosphate may be independent of the form. However, Orthophosphates (also called Soluble Reactive Phosphorus), which can also be formed in effluent treatment processes from organic phosphates, are considered the form most bioavailable and utilised by biota, and hence likely to be the most attributable to eutrophication. Therefore, rather than Total Phosphorus, a more appropriate measurement maybe that of Orthophosphate, but even this will only be indicative and categorically not conclusive of having the potential to cause eutrophication.

Total Phosphorus and the River Avon SAC

- 3.15. To better understand the issue with Total Phosphorus in the River Avon SAC, a source – pathway – receptor model is to be applied.
- 3.16. In this case, surface water and foul water discharge from the Proposed Development are the potential impact sources being considered; an unnamed watercourse, The Were and River Wylye are the impact pathways; and the qualifying features of River Avon SAC are the receptors being scoped for the risk of adverse effects upon them.
- 3.17. To demonstrate beyond reasonable scientific doubt that the Proposed Development will not adversely affect the site integrity of the River Avon SAC, the following steps need to be taken:
- i. Demonstrate that the impact source does not exist (i.e. demonstrate Total Phosphorus neutrality); and
 - ii. Demonstrate that there is no functional pathway for Total Phosphorus transfer between the development site's surface and foul water discharge and the River Avon SAC; and
 - iii. Demonstrate that the qualifying features of the designated sites will not be adversely affected by any additional Total Phosphorus reaching the River Avon SAC.

- 3.18. If the risk of an adverse effect on site integrity at any of the above three points (source, pathway, receptor) cannot be scoped out, the Proposed Development will need to deliver Total Phosphorus specific mitigation. In addition, if it is concluded that there is an existing adverse effect on site integrity as a consequence of nutrient levels within the river, then any additional inputs of Total Phosphorus to the River Avon SAC from the Proposed Development's surface water run-off and/or foul water discharging from the Site will need to be mitigated. The identified mitigation measures will need to be effective in mitigating any adverse effect on site integrity, and this effectiveness will need to be established beyond reasonable scientific doubt.

4.0 WARMINSTER WASTE WATER TREATMENT WORKS

Warminster Sewer Network

- 4.1. The Warminster area has a predominantly separate sewer system, where wastewater, sewage from homes and businesses, is collected into the foul only sewer and conveyed to Warminster WWTW. Storm water, rainwater collected from roofs and yards, is collected into a separate surface water sewer which conveys the rainwater to the river. However, in some situations the surface water sewer discharges to the foul sewer. In these cases, under heavy storm conditions, sewer capacity can be exceeded and built in safety valves called storm overflows, permitted by the Environment Agency, can operate to prevent sewer flooding¹⁶.

Warminster WWTW

- 4.2. The wastewater¹⁷ generated by the future residents of the Proposed Development, once operational, will pass through Warminster WWTW before being discharged to the River Wylye as it is the closest WWTW to the Site, approximately 2.4km to the southwest.
- 4.3. Warminster WWTW has a current permit limit of 0.5 mg TP/l, which will reduce to 0.25 mg TP/l from 2030 after upgrades to Warminster WWTW prior to 1st January 2030.

¹⁶ <https://www.wessexwater.co.uk/environment/drainage-and-wastewater-management-plan/hampshire-avon/warminster-strategy>

¹⁷ Wastewater is also referred to as foul water

5.0 THE PROPOSED DEVELOPMENT AND ITS DESIGN MEASURES

Introduction

- 5.1. The arable and neutral grassland fields within the Site will be replaced by the Proposed Development which will comprise the erection of up to 205 dwellings, community hub, public open space, access, infrastructure and associated works.
- 5.2. It will lead to the conversion of 7.44 ha of arable land with a leachate rate of 0.12 kg TP/ha/yr and 3.01 ha of lowland pasture with a leachate rate of 0.07 kg TP/ha/yr^{18,19} with no current residents to:
- 4.96 ha of new residential urban land use with a leachate rate of 1.65 kg TP/ha/yr;
 - 0.06 ha of new commercial/industrial urban land (community hub and pumping station) with a leachate rate of 1.21 kg TP/ha/yr;
 - 4.38 ha of greenspace (open space) with a leachate rate of 0.02 kg TP/ha/yr;
 - 0.02 ha of community food growing (allotments) with a leachate rate of 0.09 kg TP/ha/yr;
 - 0.54 ha of water (pond) which has a leachate rate of 0 kg TP/ha/yr; and
 - 0.31 ha of open urban land (play areas and kickabout area²⁰) which has a leachate rate of 0.89 kg TP/ha/yr.
- 5.3. Within the new residential urban land use there will be 205 dwellings which will house approximately 492 people²¹. The community hub will not include overnight accommodation and therefore has been excluded from the new resident's foul water contribution but will be included, alongside the pumping station, as new commercial/industrial urban land use within the Total Phosphorus budget calculation, as set out in **Appendix 3**.
- 5.4. This chapter sets out the design measures for the Proposed Development that will reduce the discharge of Total Phosphorus from the Site to a level that creates a phosphorus neutral development.

¹⁸ The current land uses have been the predominant ones over the 10 years for the Site and will continue to be if the Proposed Development does not proceed.

¹⁹ There are some small areas of other habitats including grass field margins, hedgerows, scrub and wet woodland. As these are small areas, which will have less potential to leach Total Phosphorus as they will not have had fertiliser directly applied to them, they have just been included as part of the arable and pasture land uses which have higher leachate rates to provide a worst case assessment. The area of wet woodland will be retained by the Proposed Development and forms part of the open space within the nutrient calculations.

²⁰ A precautionary approach to using this category has been taken as the land in these uses is proposed to be permeable and naturalistic in form.

²¹ The average occupancy of dwellings is assumed to be the national average of 2.4. This is in accordance with the High Court Decision in relation to Wyatt, R. v Fareham Borough Council (2021), case number CO/4168/2020.

- 5.5. The calculations for the Total Phosphorus budget resulting from the Proposed Development, which consider the surface and foul water drainage strategies below, are provided in **Appendix 3**²².

Dwelling Occupation Scenario

- 5.6. Construction of the Proposed Development is due to commence in autumn/winter 2027 with 25 dwellings completed in 2028 and then 50 dwellings completed each year until it is completed in 2032, subject to obtaining planning permission. Therefore, the earliest occupancy of the dwellings will commence during 2028²³.

Construction

- 5.7. The Proposed Development's construction will involve the following main stages:
- i. Enabling works such as establishing haul routes and compound areas and clearance of vegetation;
 - ii. Site preparation with stripping of topsoil, re-profiling of the land as required for the design of the Proposed Development;
 - iii. Excavation and diversion of utilities including drainage;
 - iv. Construction of internal roads, car parking and footways;
 - v. Construction of the dwellings;
 - vi. Fit out of the dwellings; and
 - vii. Landscaping.
- 5.8. In theory, without the following design measures in place, the construction of the Proposed Development could result in changes to water quality (including nutrients) within surface water run-off and foul water discharge.

Design Measures

- 5.9. A Construction Environmental Management Plan (CEMP) will be secured by planning conditions and will be implemented during the construction of the Proposed Development. The CEMP will set out general methods for minimising adverse construction effects on the environment, including water quality, for all involved with the construction works, including the supply chain. The CEMP will minimise all construction effects on the environment through the implementation of procedures for:

²² The leachate coefficients for the existing land uses come from the Natural England and Ricardo Nutrient Neutrality Budget Calculator for the River Avon SAC (2022)

²³ It is assumed for the purposes of the Natural England Nutrient Neutrality Budget Calculator for the River Avon SAC (**Appendix 3**) that dwellings will start being occupied on 1st June 2028.

- i. Reducing the risk of spillage or leakage of oil, fuel and other liquid chemicals;
- ii. Dealing with a spillage – the contractor will be responsible for storing easily accessible spillage containment equipment on site and for training staff in the use of such equipment;
- iii. Avoiding causing the release of pollution from existing pipelines;
- iv. Management of site runoff and elevated concentrations of suspended solids;
- v. Management of dust produced by construction activities through implementation of dust suppression measures including: visual checks, use of water sprays, screens and sheets around stockpiles and appropriate construction activities, and careful transfer of materials;
- vi. Dealing appropriately with potentially contaminated land;
- vii. Appropriate water quality monitoring and regular visual inspection of site drainage waters during construction;
- viii. Avoiding affecting trees and hedgerows to be retained in accordance with BS5837:2012 – Trees in Relation to Construction²⁴;
- ix. Minimising noise levels for all the construction activities and plant through implementation of a noise control plan which will advocate the use of best practice in line with BS522825 and will include measures such as: use of silencers or mufflers on plant and machinery; use of the quietest possible plant; and minimising onsite cutting operations and other noisy activities through off-site fabrication where possible;
- x. Compliance with best practice pollution prevention guidelines to minimise the potential for water-based pollutants to enter nearby waterbodies or drains preventing changes in the hydraulic regime and ensuring that any discharge from the Proposed Development will be the equivalent to 'Greenfield' runoff;
- xi. Management, recycling and disposal of waste during construction in accordance with the requirements of: the Environment Agency; the Environmental Protection Act 1990²⁶; the Environmental Protection (Duty of Care) Regulations 1992²⁷; the Waste Management (England and Wales) Regulations 2006²⁸; the Landfill (England and Wales) Regulations 2002²⁹ and the Landfill (England and Wales) (Amendment) Regulations 2004³⁰; Hazardous

²⁴ British Standards Institute (2012) BS5837:2012 Trees in Design, Demolition and Construction, Recommendations.

²⁵ British Standards Institute (2014) BS5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites. Noise

²⁶ Environmental Protection Act 1990

²⁷ Environmental Protection (Duty of Care) Regulations 1992

²⁸ The Waste Management (England and Wales) Regulations 2006

²⁹ Landfill (England and Wales) Regulations 2002

³⁰ Landfill (England and Wales) (Amendment) Regulations 2004

Waste (England and Wales) Regulations 2005³¹; and the List of Wastes (England) Regulations 2005³²;

- xii. Enabling site inductions for all staff to highlight issues of ecological importance and sensitivity;
 - xiii. Providing secure site fencing to prevent impacts on habitats outside the works area; and
 - xiv. Night time lighting during construction addressing the need to limit light spillage and glare on areas likely to support bats and birds by following recommendations produced by the Bat Conservation Trust.
- 5.10. In addition, the following specific standard measures will also be included in the CEMP to maintain water quality and minimise the discharge of Total Phosphorus from the Site during construction:
- i. Construction activities will be carried out in accordance with guidance contained within best practice pollution prevention guidelines;
 - ii. Prior to pumping from excavations, permits to operate pumps will be issued to the pump operator, indicating the point of discharge and all other necessary control procedures;
 - iii. There will be no pumping to controlled waters or surface water drains/ditches without a Discharge Consent obtained from the Environment Agency;
 - iv. Before any discharge of water is made from the Site, adequate provisions will be made to ensure that it is not polluting. This includes incorporating appropriate silt settlement techniques into the watercourses within and surrounding the Site, protecting gullies and if necessary blocking drains during specific operations;
 - v. All spills regardless of size are to be reported and treated;
 - vi. Fuel, oil or chemicals will be stored on impervious bases of appropriate capacity and will be located away from watercourses in accordance with the best practice pollution prevention guidelines as well as COSHH Regulations 2002 and the Control of Pollution (Oil Storage) Regulations 2004;
 - vii. Where practicable, drainage from storage compounds will be passed through oil interceptors prior to discharge;
 - viii. Leaking and empty drums will be removed from the Site and disposed of appropriately;

³¹ Hazardous Waste (England and Wales) Regulations 2005

³² List of Wastes (England) Regulations 2005

- ix. Any refuelling of mobile plants and machinery will be undertaken in a designated area away from watercourses and surface drains, and supplied with appropriate spill kits and banded bowlers;
 - x. All mobile plant will have drip trays or the equivalent under them to prevent any leaks getting to the ground;
 - xi. The handling and storage of potentially hazardous liquids on site e.g. fuels and chemicals are to be controlled and best practice guidance from the Environment Agency will be applied;
 - xii. Biodegradable hydraulic oil will be used for machinery/plant where possible;
 - xiii. Operational outlets to public sewers will be protected from debris and filters/screens/sumps will be employed;
 - xiv. All drums and barrels will be fitted with flow control taps and will be properly labelled;
 - xv. Portable toilets (for initial site set up works only) and good quality temporary toilet facilities will be provided for construction worker use to prevent water pollution resulting from worker-generated sewage effluents. The wastewater from these facilities will be tankered off site and disposed of appropriately;
 - xvi. No concrete wash outs will be permitted on site. Contractors using concrete wagons must employ the use of a concrete sock for each wagon. Manholes and catch pits will be covered to prevent concrete-cement ingress;
 - xvii. Haul roads and hardstanding on the Site and approaches to drains leading to a water body will be regularly cleaned using water bowlers and/or road sweepers to prevent the build-up of mud, oil and dirt that may be washed into a water body or drain during heavy rainfall;
 - xviii. The use of water sprays to reduce dust or wash down within construction areas will be carefully regulated to avoid washing substantial quantities of silt etc., into surface water drains; and
 - xix. Spill kits will be located within the works compounds and at any location where fuel, oil or other chemicals are in use.
- 5.11. In summary, through the implementation of the Proposed Development's CEMP, there will be no adverse effects on the site integrity of River Avon SAC as a result of Total Phosphorus leaving the Site during construction. The measures within the CEMP are additional to those set out in the Total Phosphorus budget calculations and are only associated with the construction phase.

Operation

- 5.12. In theory, the qualifying features of River Avon SAC during operation of the Proposed Development without measures in place will potentially be affected by an increase of Total Phosphorus as a result of change of land use changing the leaching rates of Total Phosphorus from the land and increase in foul water produced by the new residents within the River Avon SAC catchment. The nutrients could then reach the River Avon SAC via the unnamed watercourse, The Were and the River Wylfe as described in Chapters 2 and 3. However, the following measures will be implemented as an integral part of the Proposed Development to avoid additional Total Phosphorus reaching the River Avon SAC.

Landscape Plan and Landscape and Ecology Management Plan

- 5.13. As part of the Reserved Matters application, a Landscape Plan and a Landscape and Ecology Management Plan, secured by planning condition(s), will be produced and then implemented. Together they will provide a framework for mitigation and management of the open space/soft landscaping (excluding private residential gardens) that will be enacted in perpetuity for the benefit of ecology and landscape within the operational development by a management company while also minimising the potential for suspended solids to enter waterbodies. The following measures will be included to control surface water quality and quantity discharged from the Site:
- i. Creation of a variety of habitats adjoining SuDS and other drainage features to encourage amphibians, wetland birds and aquatic invertebrates;
 - ii. Planting of the open space areas have been designed for wildlife through the use of linking meadow, shrub, orchards and hedge/tree lines along the key ecological features. The management of these areas will ensure that the connectivity remains in place throughout the lifetime of the Proposed Development;
 - iii. Herbicides and fertilisers will not to be used in the open spaces, with the exception of treatment for invasive species or plant diseases;
 - iv. Structural buffers which will slow down and intercept surface water flows as well as minimise soil erosion are likely, subject to detailed design, to be landscaped to create mosaics of trees, hedgerows, orchards, scrub and tall herb, grassland, local play areas and informal footpaths and/or cycleways; and
 - v. Dog bins will be provided in strategic easily accessible locations throughout the development (including open space) and will be regularly emptied.
- 5.14. Furthermore, across the open spaces within the Site, the change in land use from farmland to meadow grassland with trees, orchards and scrub will permanently improve the quality and

stability of the remaining soils within the Site and thus their ability to also sequester and store phosphorus as well as carbon and other nutrients.

- 5.15. At present the Site comprises 7.44 ha of arable (cereal) farmland, where the intensive farming practices have over time damaged the soil structure. The soils in the areas of grazing (3.01ha) will be less damaged than the arable (cereal) farmland, but damage is still likely to have occurred over time through poaching. However, within the proposed open space and areas of soft landscaping, the establishment of permanent meadow grassland, trees, hedgerows, thicket as well as marginal and aquatic vegetation and their roots will improve soil structure and stability which will also allow mycorrhizae and its associated glomalin to re-establish and spread through the soil further improving the soils' carbon and other nutrients storage and sequestration.
- 5.16. Glomalin allows water, air and nutrients to filtrate through the soils. As plants grow, the fungal hyphae creep down the plant roots establishing new networks near the extending tips. Higher up the root, the defunct hyphae slough off their protective glomalin, which falls back into the soil and attaches to particles of sand, silt, clay and organic matter, forming lumps of soil, allowing water, air and nutrients to infiltrate the spaces between providing the soil within its structure and slowing down surface water run-off, which effectively locks in nutrients such as phosphorus.
- 5.17. Furthermore, garden waste (green) bins will be provided by the developer to each dwelling with a garden. The green bin will encourage the residents to remove green waste from their gardens rather than compost or burn the waste within their gardens. A contract will be set up between the residents and Wiltshire Council to have the green bins regularly emptied³³. The use of green bins will minimise the release of phosphorus from rotting vegetation which could leach into the ground and surface water run-off.

Foul Water Drainage Strategy

- 5.18. No foul water is being generated on the Site at present. This section presents the Foul Water Drainage Strategy for the Proposed Development which will be secured via planning conditions.

Water Consumption Savings

- 5.19. Once operational, permanent water saving techniques and technologies will be incorporated into the Proposed Development to ensure that the average water consumption per person is 110l/day to minimise the flow of foul/waste water leaving the Site³⁴. This is equivalent to

³³ <https://www.wiltshire.gov.uk/gardenwaste>

³⁴ An additional 10l/day have been added to the calculations in **Appendix 3** as per the Natural England guidance (March 2022) as an additional buffer.

meeting the “optional requirement” of part G2 of the UK Building Regulations³⁵ and is standard practice across the building industry.

- 5.20. The 110l/day will be achieved by implementing a combination of the following water saving techniques and technologies in accordance with BREEAM: ECOHOMES³⁶:
- i. High efficiency, aerated, censored or low flow taps/showerheads;
 - ii. Double flush or low flush toilets;
 - iii. Tankless hot water heaters;
 - iv. Water efficient dishwashers and washing machines;
 - v. Insulator hot water cylinders;
 - vi. Pressure reducing valves; and
 - vii. Rainwater harvesting including water butts.

- 5.21. The water consumption savings by all these measures together have been directly incorporated into the Total Phosphorus Calculations in **Appendix 3**. The ongoing management and efficacy of these measures will be secured by planning condition.

Foul Water Drainage Strategy

- 5.22. The Proposed Development will implement a Foul Water Drainage Strategy (**Appendix 1**) which will provide a solution for the on-site foul drainage which aims to minimise excavation depths and to drain foul water by gravity where possible. The Foul Water Drainage Strategy will be secured by planning condition.
- 5.23. The proposed dwellings will ultimately connect into Warminster WWTW which has a current permit limit of 0.5 mg TP/l, which will reduce to 0.25 mg TP/l from 2030 after upgrades to Warminster WWTW prior to 1st January 2030. The treated water from Warminster WWTW will discharge into the River Wylfe within the River Avon SAC.
- 5.24. The water saving measures and treatment processes at Warminster WWTW will result in the Total Phosphorus load pre-2030 being 9.70 kg TP/yr and post-2030 being 4.85 kg TP/yr.

Surface Water Drainage Strategy

Baseline Information

- 5.25. There is an unnamed watercourse flowing southwards in the northwest corner of the Site with drainage ditches along the east-west field boundaries. The unnamed watercourse, on leaving the Site, flows through a culvert under the Wessex Mainline railway and south to The Were

³⁵ HM Government, The Building Regulations 2010, Approved Document G, Sanitation, hot water safety and water efficiency

³⁶ BREEAM (April 2006) Ecohomes 2006 – The Environmental Rating for Homes The Guidance – 2006 / Issue 1.2.

and then flows south-east through Warminster to the River Wylfe which is within the River Avon (Hampshire) Special Area of Conservation (SAC) and is one of the five main tributaries to the Hampshire Avon River. The upstream catchment of the unnamed watercourse is on freely draining soils with annual average rainfall of 800.1 to 850mm. It also overlies a Nitrate Vulnerable Zone³⁷.

Surface Water Drainage Strategy

- 5.26. A Surface Water Drainage Strategy for the Proposed Development (**Appendix 1**) and its implementation will be secured through a planning condition associated with the planning permission. It will replicate the existing drainage patterns by providing storage within the Site to limit run-off from the Proposed Development.
- 5.27. A ground investigation for the Site concluded that the underlying soils are not suitable for the Proposed Development to drain via infiltration (Phoenix Design Partnership Ltd, 2021). Therefore, surface water runoff from the roof surfaces of the proposed buildings, access/internal roads and other impermeable surfaces located within the Site will be collected using traditional pipes, discharging locally to pipes and swales and to a vortex grit separator and detention basin prior to discharge into the unnamed watercourse. After the surface water has passed through the vortex grit separator and detention basin retention pond 36.60% of Total Phosphorus will be removed³⁸.
- 5.28. The surface water run-off on the greenspace (open space) and community food growing area (allotment) will infiltrate directly into the ground which will lock in and remove 100% of the Total Phosphorus.
- 5.29. Overall, the Surface Water Drainage Strategy will remove 2.35 kg TP/yr of Total Phosphorus from surface water run-off.

Summary

- 5.30. The implementation of the: water saving measures and treatment of foul water at Warminster WWTW; change of land use; and implementation of the Proposed Development's Surface Water Drainage Strategy will result in a Total Phosphorus budget of 17.85 kg TP/yr prior to 2030 and 12.03 kg TP/yr post-2030 that will require mitigation through the purchase of off-site credits upstream of Warminster WWTW and where the surface water run-off from the Site discharges into the River Avon SAC.

³⁷ <https://magic.defra.gov.uk/MagicMap.aspx>

³⁸ CIRIA (2022) CIRIA C808. Using SuDS to reduce phosphorus in surface water runoff.

6.0 STATEMENT TO INFORM THE HABITATS REGULATIONS ASSESSMENT

- 6.1. The Shadow Habitats Regulations Assessment – River Avon SAC and Salisbury Plain SPA accompanying the planning application is designed to be read in conjunction with and be informed by this report. It provides an assessment of the effects on the site integrity of Salisbury Plain SAC and Special Protection Area (SPA) and the River Avon SAC resulting from the construction and operation of the Proposed Development on its own and in combination with other residential or overnight accommodation developments within the River Avon SAC catchment.
- 6.2. The information to inform the Shadow Habitats Regulations Assessment in respect to water quality effects on the site integrity of the River Avon SAC is presented in this document. Details on other key issues potentially affecting the River Avon SAC and Salisbury Plain SAC and SPA are set out within the Shadow Habitats Regulations Assessment and are not discussed further in this report.
- 6.3. In summary to avoid adding to the existing problem of high Total Phosphorus concentrations affecting the site integrity of the River Avon SAC, the Proposed Development has been designed as described in Chapter 4 to prevent further Total Phosphorus being released into the River Avon SAC catchment as a result of construction and/or operation of the Proposed Development through the production and implementation of the following measures:
 - i. CEMP which includes best practice methods for protecting the environment during construction;
 - ii. Landscape Strategy and Landscape and Ecology Management Plan to provide a framework for mitigation and management of open space/soft landscaping that will be enacted in perpetuity;
 - iii. Foul Water Drainage Strategy to limit the average water consumption per person to 110l/day (with an additional 10l/day buffer) and discharge foul water to Warminster WWTW further removal of Total Phosphorus prior to discharge into the River Wylfe and River Avon SAC;
 - iv. Surface Water Drainage Strategy to intercept and treat surface water run-off from impermeable surfaces through the vortex grit separator and detention basin. Surface water on areas of soft landscaping, open urban land, greenspace and allotments to infiltrate into the ground; and
 - v. Purchase of off-site credits to off-set the Total Phosphorus generated by the Proposed Development.

- 6.4. The implementation of these measures during construction and operation of the Proposed Development on its own or cumulatively will result in:
- i. No reduction of areas of key habitats;
 - ii. No significant disturbance to key species using the habitats within the River Avon SAC;
 - iii. No habitat or species fragmentation;
 - iv. No reduction in species density;
 - v. No adverse changes in key indicators of conservation value (water quality etc.);
 - vi. No climate change impacts; and
 - vii. No changes in water levels within the River Avon SAC.
- 6.5. In conclusion, the measures discussed above to reduce and offset Total Phosphorus within the River Avon SAC catchment will be fully implemented prior to the occupation of dwellings and can remain in perpetuity as required. The Proposed Development will result in no additional Total Phosphorus being discharged from the Proposed Development via foul or surface waters. Therefore, there will be no adverse effect on the site integrity of River Avon SAC.

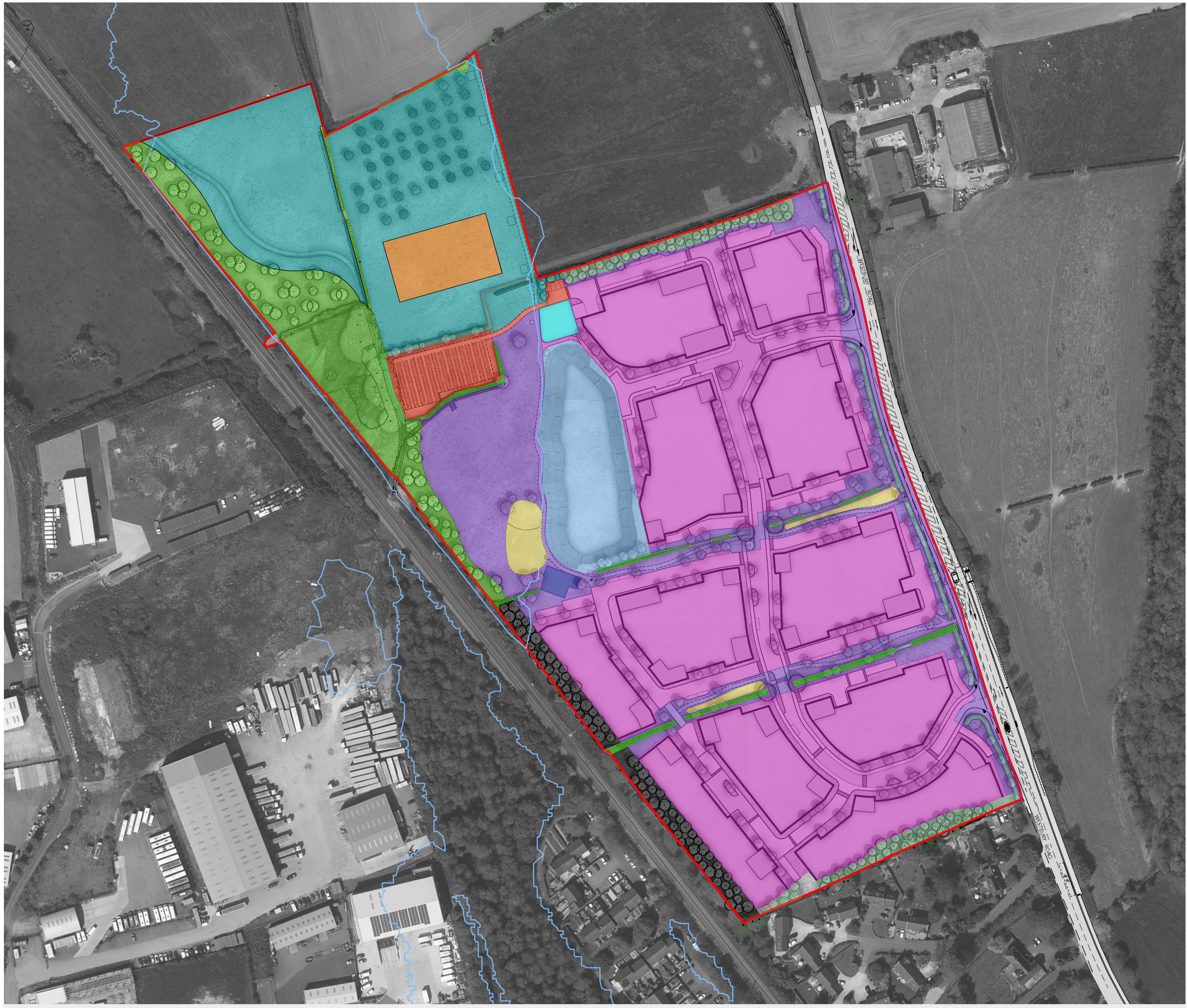
7.0 SUMMARY

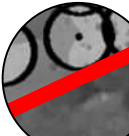
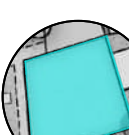
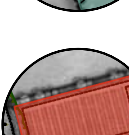
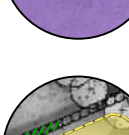
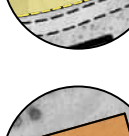
- 7.1. The Proposed Development comprises the erection of up to 205 dwellings, community hub, public open space, access, infrastructure and associated works. It will lead to the conversion of arable and pasture fields to urban areas and open space. The following design measures are associated with the Proposed Development:
- i. CEMP which includes best practice methods for protecting the environment during construction;
 - ii. Landscape Strategy and Landscape and Ecology Management Plan to provide a framework for mitigation and management of open space/soft landscaping that will be enacted in perpetuity;
 - iii. Foul Water Drainage Strategy to limit the average water consumption per person to 110l/day (with an addition 10l/day buffer) and discharge foul water to Warminster WWTW further removal of Total Phosphorus prior to discharge into the River Wylfe and River Avon SAC;
 - iv. Surface Water Drainage Strategy to intercept and treat surface water run-off from impermeable surfaces through the vortex grit separator and detention basin. Surface water on areas of soft landscaping, open urban land, greenspace and allotments to infiltrate into the ground; and
 - v. Purchase of off-site credits to off-set the Total Phosphorus generated by the Proposed Development.
- 7.2. In summary, the land use changes and these design measures to reduce and offset Total Phosphorus reaching the River Avon SAC will be fully implemented prior to the occupation of dwellings and can remain for the lifespan of the Proposed Development.
- 7.3. The Proposed Development, as demonstrated by the nutrient neutrality calculations in **Appendix 3** and purchase of credits, will result in no additional Total Phosphorus being discharged from the Proposed Development via foul or surface waters. Therefore, there will be no adverse effect on the site integrity of the River Avon SAC.

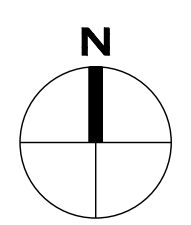
APPENDIX 1: DRAWINGS



REVISIONS:



-  SITE BOUNDARY
10.454Ha 25.833Ac
-  RESIDENTIAL
4.957Ha 12.249Ac
-  LAND TO BE OFFERED TO WILTSHIRE COUNCIL
VIA S106 AGREEMENT FOR COMMUNITY USES
0.036Ha 0.089Ac
-  NATURAL GREEN SPACE
0.801Ha 1.979Ac
-  PROPOSED HEDGE
0.117Ha 0.289Ac
-  ALLOTMENTS
0.202Ha 0.499Ac
-  PARKS & RECREATION GROUNDS
1.679Ha 4.150Ac
-  AMENITY
1.380Ha 3.409Ac
-  PLAY AREAS
0.113Ha 0.278Ac
-  KICKABOUT AREA
0.195Ha 0.483Ac
-  SUD's
0.541Ha 1.338Ac
-  PUMP STATION
0.022Ha 0.055Ac
-  BUFFER - RAILWAY
0.217Ha 0.536Ac
-  BUFFER - LANDSCAPING
0.186Ha 0.461Ac



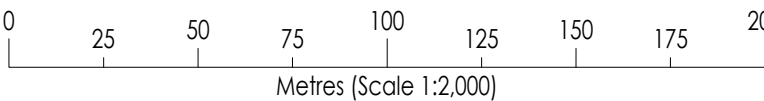
NEW FARM, WESTBURY ROAD, WARMINSTER
PARAMETER PLAN - LAND BUDGET PLAN

DATE : AUGUST 2025
DRAWN : JR/CM

DRAWING TITLE : PARAMETER PLAN - LAND BUDGET PLAN
DRAWING NO : 0736-2005-4
SCALE : 1:1000 @ A1

The Distillery, The Old Brewery Office Park,
7-11 Ludway, Pils, Bristol BS20 5DH
T: 01275 813380 E: admin@focusdp.com
www.focusdp.com





LAND WEST OF WESTBURY ROAD, WARMINSTER

Google Earth Images Between 2016 and 2025

Image taken 30/08/2016



Image taken 20/05/2018



Image 14/09/2020



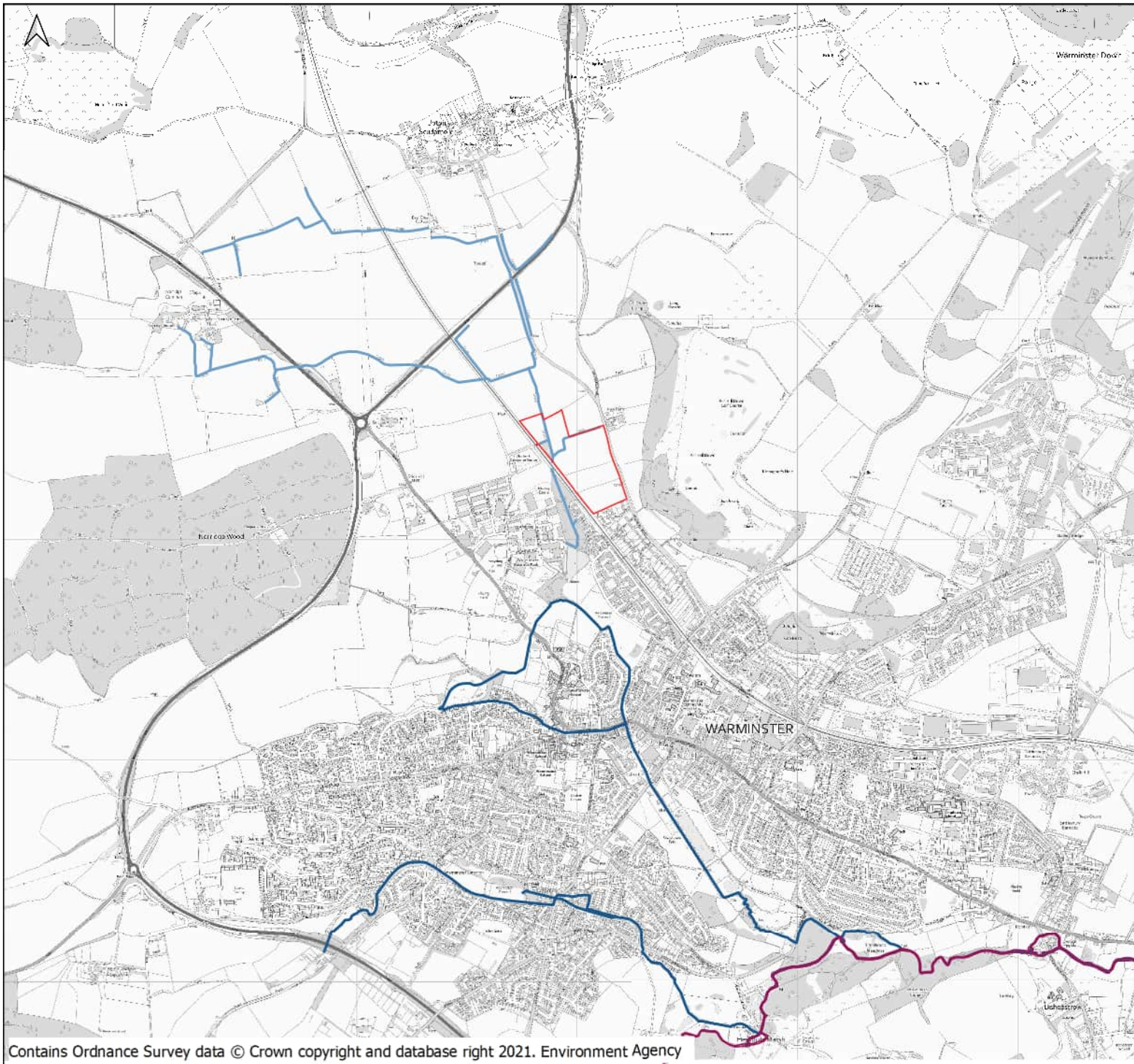
Image 15/06/2022



Image 15/05/2025



APPENDIX 2: THE RIVER AVON SAC



Legend

— Site Boundary

Special Areas of Conservation (SAC)

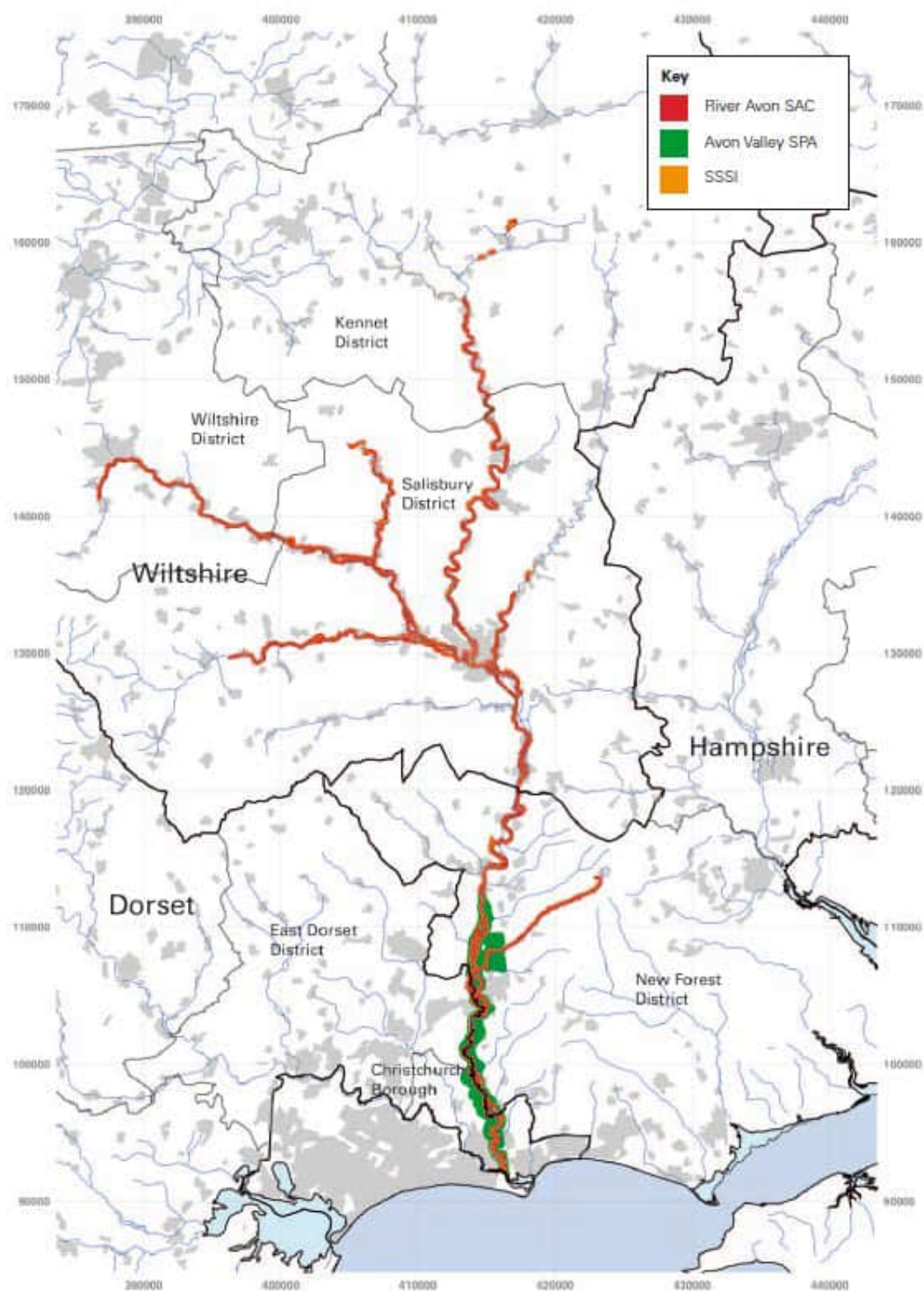
▨ River Avon

— Unnamed Watercourse

— Main Rivers

**Land West of Westbury Road,
Warminster
The Site and River Avon SAC**

Extent of statutory designation on the River Avon



STANDARD DATA FORM for sites within the 'UK national site network of European sites'

Special Protection Areas (SPAs) are classified and Special Areas of Conservation (SACs) are designated under:

- the Conservation of Habitats and Species Regulations 2017 (as amended) in England and Wales (including the adjacent territorial sea) and to a limited extent in Scotland (reserved matters) and Northern Ireland (excepted matters);
- the Conservation (Natural Habitats &c.) Regulations 1994 (as amended) in Scotland;
- the Conservation (Natural Habitats, &c) Regulations (Northern Ireland) 1995 (as amended) in Northern Ireland; and
- the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended) in the UK offshore area.

Each SAC or SPA (forming part of the UK national site network of European sites) has its own Standard Data Form containing site-specific information. The information provided here generally follows the same documenting format for SACs and SPAs, as set out in the [Official Journal of the European Union recording the Commission Implementing Decision of 11 July 2011 \(2011/484/EU\)](#).

Please note that these forms contain a number of codes, all of which are explained either within the data forms themselves or in the end notes.

More general information on SPAs and SACs in the UK is available from the [SPA homepage](#) and [SAC homepage](#) on the JNCC website. These webpages also provide links to Standard Data Forms for all SAC and SPA sites in the UK.

<https://jncc.gov.uk/>



NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA),
Proposed Sites for Community Importance (pSCI),
Sites of Community Importance (SCI) and
for Special Areas of Conservation (SAC)

SITE UK0013016

SITENAME River Avon

TABLE OF CONTENTS

- [1. SITE IDENTIFICATION](#)
- [2. SITE LOCATION](#)
- [3. ECOLOGICAL INFORMATION](#)
- [4. SITE DESCRIPTION](#)
- [5. SITE PROTECTION STATUS AND RELATION WITH CORINE BIOTOPES](#)
- [6. SITE MANAGEMENT](#)

1. SITE IDENTIFICATION

1.1 Type B	1.2 Site code UK0013016	Back to top
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1.3 Site name

River Avon

1.4 First Compilation date 1998-03	1.5 Update date 2015-12
--	-----------------------------------

1.6 Respondent:

Name/Organisation: Joint Nature Conservation Committee
Address: Joint Nature Conservation Committee Monkstone House City Road Peterborough PE1 1JY
Email:

Date site proposed as SCI:	1998-03
Date site confirmed as SCI:	2004-12
Date site designated as SAC:	2005-04
National legal reference of SAC designation:	Regulations 11 and 13-15 of the Conservation of Habitats and Species Regulations 2010 (http://www.legislation.gov.uk/uksi/2010/490/contents/made).

2. SITE LOCATION

[Back to top](#)

2.1 Site-centre location [decimal degrees]:

Longitude

-1.823333333

Latitude

51.10388889

2.2 Area [ha]:

416.57

2.3 Marine area [%]

0.0

2.4 Sitelength [km]:

0.0

2.5 Administrative region code and name

NUTS level 2 code

Region Name

UKK2	Dorset and Somerset
UKK1	Gloucestershire, Wiltshire and Bristol/Bath area
UKJ3	Hampshire and Isle of Wight

2.6 Biogeographical Region(s)

Atlantic (100.0
%)

3. ECOLOGICAL INFORMATION

[Back to top](#)

3.1 Habitat types present on the site and assessment for them

Annex I Habitat types						Site assessment			
Code	PF	NP	Cover [ha]	Cave [number]	Data quality	A B C D	A B C		
						Representativity	Relative Surface	Conservation	Global
3260 			395.74	0	G	A	B	B	A
7230 			8.33	0	M	D			
91E0 	X		4.17	0	M	D			

- **PF:** for the habitat types that can have a non-priority as well as a priority form (6210, 7130, 9430) enter "X" in the column PF to indicate the priority form.
- **NP:** in case that a habitat type no longer exists in the site enter: x (optional)
- **Cover:** decimal values can be entered
- **Caves:** for habitat types 8310, 8330 (caves) enter the number of caves if estimated surface is not available.
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation)

3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive

92/43/EEC and site evaluation for them

Species					Population in the site						Site assessment			
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D.qual.	A B C D	A B C		
						Min	Max				Pop.	Con.	Iso.	Gl
I	1092	Austropotamobius pallipes			p				V	DD	D			
F	1163	Cottus gobio			p				C	DD	C	A	C	B
F	1096	Lampetra planeri			p				C	DD	C	B	C	B
M	1355	Lutra lutra			p				R	DD	D			
F	1095	Petromyzon marinus			p				P	DD	C	B	C	B
F	1106	Salmo salar			p	501	1000	i		M	C	C	C	B
I	1016	Vertigo moulinsiana			p				P	DD	B	B	C	A

- **Group:** A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see [reference portal](#))
- **Abundance categories (Cat.):** C = common, R = rare, V = very rare, P = present - to fill if data are deficient (DD) or in addition to population size information
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

4. SITE DESCRIPTION

4.1 General site character

[Back to top](#)

Habitat class	% Cover
N08	2.0
N16	1.0
N07	2.0
N06	95.0
Total Habitat Cover	100

Other Site Characteristics

1 Terrestrial: Soil & Geology: clay,neutral,basic,limestone,nutrient-rich,alluvium 2 Terrestrial: Geomorphology and landscape: island,valley,floodplain,lowland

4.2 Quality and importance

Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation for which this is considered to be one of the best areas in the United Kingdom. Petromyzon marinus for which this is considered to be one of the best areas in the United Kingdom. Lampetra planeri for

which this is considered to be one of the best areas in the United Kingdom. *Salmo salar* for which this is considered to be one of the best areas in the United Kingdom. *Cottus gobio* for which this is considered to be one of the best areas in the United Kingdom. *Vertigo moulinsiana* for which this is considered to be one of the best areas in the United Kingdom.

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i o b]
H	M02		B
H	H02		B
H	J02		B

Positive Impacts			
Rank	Activities, management [code]	Pollution (optional) [code]	inside/outside [i o b]
H	A02		I
H	A04		I
H	A06		I
H	B02		I

Rank: H = high, M = medium, L = low

Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,

T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions

i = inside, o = outside, b = both

4.5 Documentation

Conservation Objectives - the Natural England links below provide access to the Conservation Objectives (and other site-related information) for its terrestrial and inshore Natura 2000 sites, including conservation advice packages and supporting documents for European Marine Sites within English waters and for cross-border sites. See also the 'UK Approach' document for more information (link via the JNCC website).

Link(s): <http://publications.naturalengland.org.uk/category/6490068894089216>

<http://publications.naturalengland.org.uk/category/3212324>

http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf

5. SITE PROTECTION STATUS (optional)

[Back to top](#)

5.1 Designation types at national and regional level:

Code	Cover [%]	Code	Cover [%]	Code	Cover [%]
UK00	0.2	UK04	99.8		

6. SITE MANAGEMENT

[Back to top](#)

6.1 Body(ies) responsible for the site management:

Organisation:	Natural England
Address:	
Email:	

6.2 Management Plan(s):

An actual management plan does exist:

- ☐ Yes
- ☐ No, but in preparation

☒

No

6.3 Conservation measures (optional)

For available information, including on Conservation Objectives, see Section 4.5.

EXPLANATION OF CODES USED IN THE SPECIAL AREA OF CONSERVATION (SAC) AND SPECIAL PROTECTION AREA (SPA) STANDARD DATA FORMS

The codes in the table below generally follow those explained in the [official European Union guidelines for the Standard Data Form](#) (also referencing the relevant page number).

1.1 Site type

CODE	DESCRIPTION	PAGE NO
A	SPA (classified Special Protection Area)	53
B	cSAC, SCI or SAC (candidate Special Area of Conservation, Site of Community Importance, designated Special Area of Conservation)	53
C	SPA area/boundary is the same as the cSAC/SCI/SAC i.e. a co-classified/designated site (Note: this situation only occurs in Gibraltar)	53

3.1 Habitat code

CODE	DESCRIPTION	PAGE NO
1110	Sandbanks which are slightly covered by sea water all the time	57
1130	Estuaries	57
1140	Mudflats and sandflats not covered by seawater at low tide	57
1150	Coastal lagoons	57
1160	Large shallow inlets and bays	57
1170	Reefs	57
1180	Submarine structures made by leaking gases	57
1210	Annual vegetation of drift lines	57
1220	Perennial vegetation of stony banks	57
1230	Vegetated sea cliffs of the Atlantic and Baltic Coasts	57
1310	Salicornia and other annuals colonizing mud and sand	57
1320	Spartina swards (Spartinion maritimae)	57
1330	Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	57
1340	Inland salt meadows	57
1420	Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi)	57
2110	Embryonic shifting dunes	57
2120	Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")	57
2130	Fixed coastal dunes with herbaceous vegetation ("grey dunes")	57
2140	Decalcified fixed dunes with Empetrum nigrum	57
2150	Atlantic decalcified fixed dunes (Calluno-Ulicetea)	57
2160	Dunes with Hippophya• rhamnoides	57
2170	Dunes with Salix repens ssp. argentea (Salicion arenariae)	57
2190	Humid dune slacks	57
21A0	Machairs (* in Ireland)	57
2250	Coastal dunes with Juniperus spp.	57
2330	Inland dunes with open Corynephorus and Agrostis grasslands	57
3110	Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)	57
3130	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea	57
3140	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.	57
3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	57

CODE	DESCRIPTION	PAGE NO
3160	Natural dystrophic lakes and ponds	57
3170	Mediterranean temporary ponds	57
3180	Turloughs	57
3260	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation	57
4010	Northern Atlantic wet heaths with Erica tetralix	57
4020	Temperate Atlantic wet heaths with Erica ciliaris and Erica tetralix	57
4030	European dry heaths	57
4040	Dry Atlantic coastal heaths with Erica vagans	57
4060	Alpine and Boreal heaths	57
4080	Sub-Arctic Salix spp. scrub	57
5110	Stable xerothermophilous formations with Buxus sempervirens on rock slopes (Berberidion p.p.)	57
5130	Juniperus communis formations on heaths or calcareous grasslands	57
6130	Calaminarian grasslands of the Violetalia calaminariae	57
6150	Siliceous alpine and boreal grasslands	57
6170	Alpine and subalpine calcareous grasslands	57
6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)	57
6230	Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	57
6410	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	57
6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	57
6510	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	57
6520	Mountain hay meadows	57
7110	Active raised bogs	57
7120	Degraded raised bogs still capable of natural regeneration	57
7130	Blanket bogs (* if active bog)	57
7140	Transition mires and quaking bogs	57
7150	Depressions on peat substrates of the Rhynchosporion	57
7210	Calcareous fens with Cladium mariscus and species of the Caricion davallianae	57
7220	Petrifying springs with tufa formation (Cratoneurion)	57
7230	Alkaline fens	57
7240	Alpine pioneer formations of the Caricion bicoloris-atrofuscae	57
8110	Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani)	57
8120	Calcareous and calcshist scree of the montane to alpine levels (Thlaspietalia rotundifoliae)	57
8210	Calcareous rocky slopes with chasmophytic vegetation	57
8220	Siliceous rocky slopes with chasmophytic vegetation	57
8240	Limestone pavements	57
8310	Caves not open to the public	57
8330	Submerged or partially submerged sea caves	57
9120	Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion robur-petraeae or Ilici-Fagenion)	57
9130	Asperulo-Fagetum beech forests	57
9160	Sub-Atlantic and medio-European oak or oak-hornbeam forests of the Carpinion betuli	57
9180	Tilio-Acerion forests of slopes, scree and ravines	57
9190	Old acidophilous oak woods with Quercus robur on sandy plains	57
91A0	Old sessile oak woods with Ilex and Blechnum in the British Isles	57
91C0	Caledonian forest	57
91D0	Bog woodland	57
91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	57
91J0	Taxus baccata woods of the British Isles	57

3.1 Habitat representativity (abbreviated to 'Representativity' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent representativity	57
B	Good representativity	57
C	Significant representativity	57
D	Non-significant presence representativity	57

3.1 Relative surface

CODE	DESCRIPTION	PAGE NO
A	> 15%-100%	58
B	> 2%-15%	58
C	≤ 2%	58

3.1 Degree of conservation (abbreviated to 'Conservation' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent conservation	59
B	Good conservation	59
C	Average or reduced conservation	59

3.1 Global assessment (abbreviated to 'Global' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent value	59
B	Good value	59
C	Significant value	59

3.2 Population (abbreviated to 'Pop.' in data form)

CODE	DESCRIPTION	PAGE NO
A	> 15%-100%	62
B	> 2%-15%	62
C	≤ 2%	62
D	Non-significant population	62

3.2 Degree of conservation (abbreviated to 'Con.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent conservation	63
B	Good conservation	63
C	Average or reduced conservation	63

3.2 Isolation (abbreviated to 'Iso.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Population (almost) Isolated	63
B	Population not-isolated, but on margins of area of distribution	63
C	Population not-isolated within extended distribution range	63

3.2 Global Grade (abbreviated to 'Glo.' or 'G.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent value	63
B	Good value	63
C	Significant value	63

3.3 Other species – essentially covers bird assemblage types

CODE	DESCRIPTION	PAGE NO
WATR	Non-breeding waterbird assemblage	UK specific code
SBA	Breeding seabird assemblage	UK specific code

BBA	Breeding bird assemblage (applies only to sites classified pre 2000)	UK specific code
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4.1 Habitat class code

CODE	DESCRIPTION	PAGE NO
N01	Marine areas, Sea inlets	65
N02	Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins)	65
N03	Salt marshes, Salt pastures, Salt steppes	65
N04	Coastal sand dunes, Sand beaches, Machair	65
N05	Shingle, Sea cliffs, Islets	65
N06	Inland water bodies (Standing water, Running water)	65
N07	Bogs, Marshes, Water fringed vegetation, Fens	65
N08	Heath, Scrub, Maquis and Garrigue, Phygrana	65
N09	Dry grassland, Steppes	65
N10	Humid grassland, Mesophile grassland	65
N11	Alpine and sub-Alpine grassland	65
N14	Improved grassland	65
N15	Other arable land	65
N16	Broad-leaved deciduous woodland	65
N17	Coniferous woodland	65
N19	Mixed woodland	65
N21	Non-forest areas cultivated with woody plants (including Orchards, groves, Vineyards, Dehesas)	65
N22	Inland rocks, Screes, Sands, Permanent Snow and ice	65
N23	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)	65
N25	Grassland and scrub habitats (general)	65
N26	Woodland habitats (general)	65

4.3 Threats code

CODE	DESCRIPTION	PAGE NO
A01	Cultivation	65
A02	Modification of cultivation practices	65
A03	Mowing / cutting of grassland	65
A04	Grazing	65
A05	Livestock farming and animal breeding (without grazing)	65
A06	Annual and perennial non-timber crops	65
A07	Use of biocides, hormones and chemicals	65
A08	Fertilisation	65
A10	Restructuring agricultural land holding	65
A11	Agriculture activities not referred to above	65
B01	Forest planting on open ground	65
B02	Forest and Plantation management & use	65
B03	Forest exploitation without replanting or natural regrowth	65
B04	Use of biocides, hormones and chemicals (forestry)	65
B06	Grazing in forests/ woodland	65
B07	Forestry activities not referred to above	65
C01	Mining and quarrying	65
C02	Exploration and extraction of oil or gas	65
C03	Renewable abiotic energy use	65
D01	Roads, paths and railroads	65
D02	Utility and service lines	65
D03	Shipping lanes, ports, marine constructions	65
D04	Airports, flightpaths	65
D05	Improved access to site	65
E01	Urbanised areas, human habitation	65
E02	Industrial or commercial areas	65

CODE	DESCRIPTION	PAGE NO
E03	Discharges	65
E04	Structures, buildings in the landscape	65
E06	Other urbanisation, industrial and similar activities	65
F01	Marine and Freshwater Aquaculture	65
F02	Fishing and harvesting aquatic resources	65
F03	Hunting and collection of wild animals (terrestrial), including damage caused by game (excessive density), and taking/removal of terrestrial animals (including collection of insects, reptiles, amphibians, birds of prey, etc., trapping, poisoning, poaching, predator control, accidental capture (e.g. due to fishing gear), etc.)	65
F04	Taking / Removal of terrestrial plants, general	65
F05	Illegal taking/ removal of marine fauna	65
F06	Hunting, fishing or collecting activities not referred to above	65
G01	Outdoor sports and leisure activities, recreational activities	65
G02	Sport and leisure structures	65
G03	Interpretative centres	65
G04	Military use and civil unrest	65
G05	Other human intrusions and disturbances	65
H01	Pollution to surface waters (limnic & terrestrial, marine & brackish)	65
H02	Pollution to groundwater (point sources and diffuse sources)	65
H03	Marine water pollution	65
H04	Air pollution, air-borne pollutants	65
H05	Soil pollution and solid waste (excluding discharges)	65
H06	Excess energy	65
H07	Other forms of pollution	65
I01	Invasive non-native species	65
I02	Problematic native species	65
I03	Introduced genetic material, GMO	65
J01	Fire and fire suppression	65
J02	Human induced changes in hydraulic conditions	65
J03	Other ecosystem modifications	65
K01	Abiotic (slow) natural processes	65
K02	Biocenotic evolution, succession	65
K03	Interspecific faunal relations	65
K04	Interspecific floral relations	65
K05	Reduced fecundity/ genetic depression	65
L05	Collapse of terrain, landslide	65
L07	Storm, cyclone	65
L08	Inundation (natural processes)	65
L10	Other natural catastrophes	65
M01	Changes in abiotic conditions	65
M02	Changes in biotic conditions	65
U	Unknown threat or pressure	65
XO	Threats and pressures from outside the Member State	65

5.1 Designation type codes

CODE	DESCRIPTION	PAGE NO
UK00	No Protection Status	67
UK01	National Nature Reserve	67
UK04	Site of Special Scientific Interest (GB)	67
UK05	Marine Conservation Zone	67
UK06	Nature Conservation Marine Protected Area	67
UK86	Special Area (Channel Islands)	67
UK98	Area of Special Scientific Interest (NI)	67
IN00	Ramsar Convention site	67
IN08	Special Protection Area	67
IN09	Special Area of Conservation	67

European Site Conservation Objectives for River Avon Special Area of Conservation Site Code: UK0013016



With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;

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 qualifying natural habitats and habitats of qualifying species
- The structure and function (including typical species) of qualifying natural habitats
- The structure and function of the habitats of qualifying species
- The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- The populations of qualifying species, and,
- The distribution of qualifying species within the site.

This document should be read in conjunction with the accompanying *Supplementary Advice* document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

H3260. Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation; Rivers with floating vegetation often dominated by water-crowfoot

S1016. *Vertigo moulinsiana*; Desmoulin's whorl snail

S1095. *Petromyzon marinus*; Sea lamprey

S1096. *Lampetra planeri*; Brook lamprey

S1106. *Salmo salar*; Atlantic salmon

S1163. *Cottus gobio*; Bullhead

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2017 as amended from time to time (the “Habitats Regulations”). They must be considered when a competent authority is required to make a ‘Habitats Regulations Assessment’, including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives and the accompanying Supplementary Advice (where available) will also provide a framework to inform the measures needed to conserve or restore the European Site and the prevention of deterioration or significant disturbance of its qualifying features.

These Conservation Objectives are set for each habitat or species of a [Special Area of Conservation \(SAC\)](#). Where the objectives are met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving Favourable Conservation Status for that species or habitat type at a UK level. The term ‘favourable conservation status’ is defined in regulation 3 of the Habitats Regulations.

Publication date: 27 November 2018 (version 3). This document updates and replaces an earlier version dated 30 June 2014 to reflect the consolidation of the Habitats Regulations in 2017.

APPENDIX 3: TOTAL PHOSPHORUS BUDGET CALCULATIONS
(provided separately)



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