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Dalton Barracks

Habitats Regulations Assessment
Scoping Report

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Issuing office

Worton Park | Worton | Oxfordshire | OX29 4SX
T: 01865 883833 | W: www.bsg-ecology.com | E: info@bsg-ecology.com

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	Name	**Position**	**Date**
Originated	Laura Grant	Senior Ecologist	12 January 2017
Reviewed	Steven Betts	Partner	25 January 2017
Updated	Peter Newbold	Senior Ecologist	12 September 2017
	Peter Newbold	Principal Ecologist	20 November 2017
Approved for issue to client	Steven Betts	Partner	25 January 2017
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Contents

1 Summary

1.1 This report has been prepared to assess the potential effects of proposed residential development at Dalton Barracks (the Site) on the two European designated sites within 19 km of the Site. The following has been undertaken to inform this assessment:

- A review of online resources including the Multi Agency Geographic Information for the Countryside (MAGIC), Air Pollution Information System and Natural England websites, as well as Ordnance Survey and aerial mapping.
- Wallingford HydroSolutions conducted a desk-based study to identify the hydrological catchment for Cothill Fen Special Area of Conservation (SAC).
- Paul Basham Associates conducted a week long transport assessment in which daily activity at the Barracks was assessed.
- Consultation with the Vale of White Horse District Council and Natural England on the 16 December 2016.

Cothill Fen SAC

1.2 Cothill Fen SAC located 255 m north-west of the proposed Site supports lowland valley mire and alkaline fen vegetation as well as alluvial forests. Threats, pressures and activities with potential to impact on the site are identified by Natural England as being: (1) pollution to groundwater (point sources and diffuse sources) and (2) human induced changes in hydraulic conditions. Wallingford HydroSolutions have confirmed Dalton Barracks is not within the hydrological catchment of the SAC, and therefore no hydrological impacts are anticipated.

1.3 Recreational pressure is not identified as a current threat to Cothill Fen SAC. Effects of increased recreational pressure as a result of the proposals is considered likely to largely be mitigated for by the provision of natural accessible greenspace within the development in the form of a Country Park, which will be more readily accessible to people than the SAC.

1.4 The potential for negative effects on air quality within 200 m of the SAC have been considered. Given the location of the Site and existing infrastructure it is reasonable to anticipate that most residents and Site users would travel south or east to the A34 and/or to the town of Abingdon. The roads within 200 m of the SAC are only minor roads connecting villages such as Dry Sandford and Cothill. Given the small size of these villages and limited amenities, there is considered to be little to warrant more than 1,000 vehicles making use of these minor roads each day therefore changes in air quality are not considered likely to be significant.

Oxford Meadows SAC

1.5 Oxford Meadows SAC, located 7.7 km north-east at its closest point, includes traditionally managed lowland hay meadows. The lowland hay meadows are identified as being most sensitive to: (1) Human induced changes in hydraulic conditions; (2) Pollution to surface waters; and (3) Invasive non-native species. South Oxfordshire District Council has also raised concerns regarding increased traffic negatively affecting air quality.

1.6 Dalton Barracks is not within the hydrological catchment of the Oxford Meadows SAC therefore no hydrological impacts are anticipated. The provision of readily accessible greenspace within the development is considered likely to be more attractive to every day recreational users than the SAC. The effects of recreational pressure on Oxford Meadows SAC are therefore considered to be negligible.

1.7 Air quality effects on Oxford Meadows SAC as a result of new development is an issue that is now being considered as a wider, strategic, cross-boundary (Oxfordshire-wide) issue in an initiative being led by the Oxfordshire Planning Policy Group (OPPG). The contribution of planned residential development within the Vale of White Horse will be considered as part of the assessment. The applicant would be happy to work with the OPPG to provide the data required to enable allocation of Dalton Barracks.

2 Introduction

Site description

2.1 Dalton Barracks is a military installation north of Abingdon-on-Thames in Oxfordshire (centred at OS national grid reference SU473993) which has been operational since 1992. The barracks were established on the site of the former RAF Abingdon airbase which was opened in 1932.

2.2 The site ('the Site') is 288 ha in extent and includes Abingdon Airfield, Dalton Barracks (comprising 101 buildings) and an Air Cadets Training Area. The Site is bordered by Honeybottom Lane in the north, fields alongside B4017 White Cross / Wootton Road and residential housing in the east, Barrow Road and residential housing in the south and fields alongside Blackhorse Lane and Faringdon Road in the west. See Figure 1 for the red line boundary.

2.3 Immediately south of the Site is the A34 beyond which is the town of Abingdon-on-Thames. Small villages also surround the Site to the north, east and west along with agricultural land, woodlands and wetlands.

Description of Project

2.4 Cater Jonas is promoting the redevelopment of Dalton Barracks through the Vale of White Horse Local Plan Part 2 for residential development of up to a maximum of 4,500 homes. This will include all necessary infrastructure for the houses, and the provision of both secondary and primary schools. The development will deliver a Country Park of at least 80 ha and initial master planning indicates that could be up to 110 hectares.

2.5 The location of key land uses proposed, including the Country Park, are shown on the Concept Plan (Appendix 1).

Scope of the Report

2.6 There will result in an increase in permanent residents on Site and will likely result in increased demand for recreational space, use of local footpaths and areas of publically accessible greenspace.

2.7 In addition, it is considered likely that there will be increased vehicular movements as a result of the proposed development, which may be exacerbated as the development will only include a low level of employment opportunities. The Vale of White Horse District Council (the competent authority as defined by the Habitats Regulations, 2010) have asked for consideration to been given to increased vehicular movements on the road networks within 200 m of Cothill Fen SAC (Cothill Road, Church Lane, Lashford Lane and Besselsleigh Road) and Oxford Meadows SAC (the A34 and A40).

2.8 The potential impact mechanisms identified and addressed within this report include changes to hydrology, traffic related air quality and recreational impacts to all European designated sites within 8 km of the Site.

Purpose of Report

2.9 The purpose of this report is to assess whether the proposed project, either alone or in combination with other projects, is likely to have a significant effect on two European designated sites (Special Areas of Conservation (SAC)) which are present within 10 km of Dalton Barracks; Cothill Fen SAC and Oxford Meadows SAC.

3 Methods

The Habitats Regulation Assessment Screening Process

3.1 Regulation 61(1) of the Conservation of Habitats and Species Regulations 2010 requires that a competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which:

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

b. is not directly connected with or necessary to the management of the site,

must make an appropriate assessment of the implications for that site in view of that site's conservation objectives.

3.2 The first stage in this process is to determine if the proposed development is likely to result in a significant effect when considered alone and in combination with other relevant projects. This report provides an assessment of likely significant effects.

3.3 The test of 'likely significant effect' is necessarily precautionary, such that if it is uncertain if a significant effect will occur then further assessment is required. If drawing a conclusion is complicated by the need for detailed supporting evidence, or if complex mitigation or detailed design work is needed to ensure that a significant effect can be avoided, the need for an 'Appropriate Assessment' is triggered.

Assessment Methods used in this Report

3.4 A review of online resources was undertaken to establish the ecological context for the Site. This included review of the Multi Agency Geographic Information for the Countryside (MAGIC) http://www.magic.gov.uk/MagicMap.aspx database (accessed 13 January 2017) to identify designated sites of European importance within 8 km of the Site. In addition, Ordnance Survey and aerial mapping was reviewed to identify footpaths and areas of publicly accessible space within 2 km of the Site, particularly those that provide access to European sites.

3.5 Wallingford HydroSolutions conducted a desk-based study to review potential hydrological impacts of proposed development within the Site on the Sandford Brook and Cothill Fen Special Area of Conservation (both situated to the north-west of the Site). Their report (Wallingford HydroSolutions, 2017) has been referenced when assessing potential impacts on the European sites.

3.6 Paul Basham Associates conducted a week long transport assessment in which daily activity at the Barracks was assessed. Their report (Paul Basham Associates, 2017) has been reviewed to establish the existing baseline for vehicle movements into and out of the Site.

3.7 The Air Pollution Information System (www.apis.ac.uk/) has been reviewed to identify critical loads for acidity, nitrogen and sulphur within the SACs.

Consultation

3.8 A meeting was held on the 16 December 2016 at the Vale of White Horse District Council (VoWHDC) offices with attendees including those from the VoWHDC, Natural England, BSG Ecology, Carter Jonas and AECOM. During the meeting the attendees discussed the work which had been completed to date and would be required to prepare the Site for inclusion within the Local Plan Part 2 Preferred Options document to be published in February/March 2017. This included discussions relating to assessments of ecological impacts on features within the Site and impacts on the Cothill Fen and Oxford Meadows SACs including hydrological, air quality and recreational impacts. The feedback provided at the meeting has shaped this Scoping Report.

4 European Designated Sites

4.1 There are two sites of European importance within 10 km of the Site: Cothill Fen Special Area of Conservation (SAC) and Oxford Meadows SAC, each of which is discussed below.

Cothill Fen SAC

4.2 Cothill Fen (Natural England Site Code UK0012889) is an SAC and SSSI 43.55 ha in extent located at central Ordnance Survey national grid reference SU463999. At its closest point, the SAC is 255 m north-west of the Site.

Features of Interest

4.3 The site supports lowland valley mire, containing one of the largest surviving examples of alkaline fen vegetation in central England, a region where fen vegetation is rare. The black bog-rush – blunt-flowered rush (*Schoenus nigricans – Juncus subnodulosus*) mire vegetation found here occurs under a wide range of hydrological conditions, with frequent bottle sedge *Carex rostrata*, grass-of-Parnassus *Parnassia palustris*, common butterwort *Pinguicula vulgaris* and marsh helleborine *Epipactis palustris*. The alkaline fen vegetation forms transitions to other vegetation types that are similar to purple moor-grass – meadow thistle (*Molinia caerulea – Cirsium dissectum*) fen-meadow and common reed – hemp-agrimony (*Phragmites australis – Eupatorium cannabinum*) tall-herb fen, as well as wet alder *Alnus glutinosa* woodland.

4.4 The site is designated under article 4(4) of the Habitats Directive (92/43/EEC) as it supports the following habitats listed in Annex I:

- H91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) (alder woodland on floodplains)
- H7230 Alkaline fens (calcium-rich springwater-fed fens)

Threats and Pressures

4.5 Threats, pressures and activities with potential to impact on the site are identified by Natural England as being: (1) pollution to groundwater (point sources and diffuse sources) and (2) human induced changes in hydraulic conditions.

4.6 The approximate hydrological catchment for Cothill Fen SAC is shown in Figure 1 (source: www.natureonthemap.org.uk). This identifies that the Site is outside the catchment for the SAC.

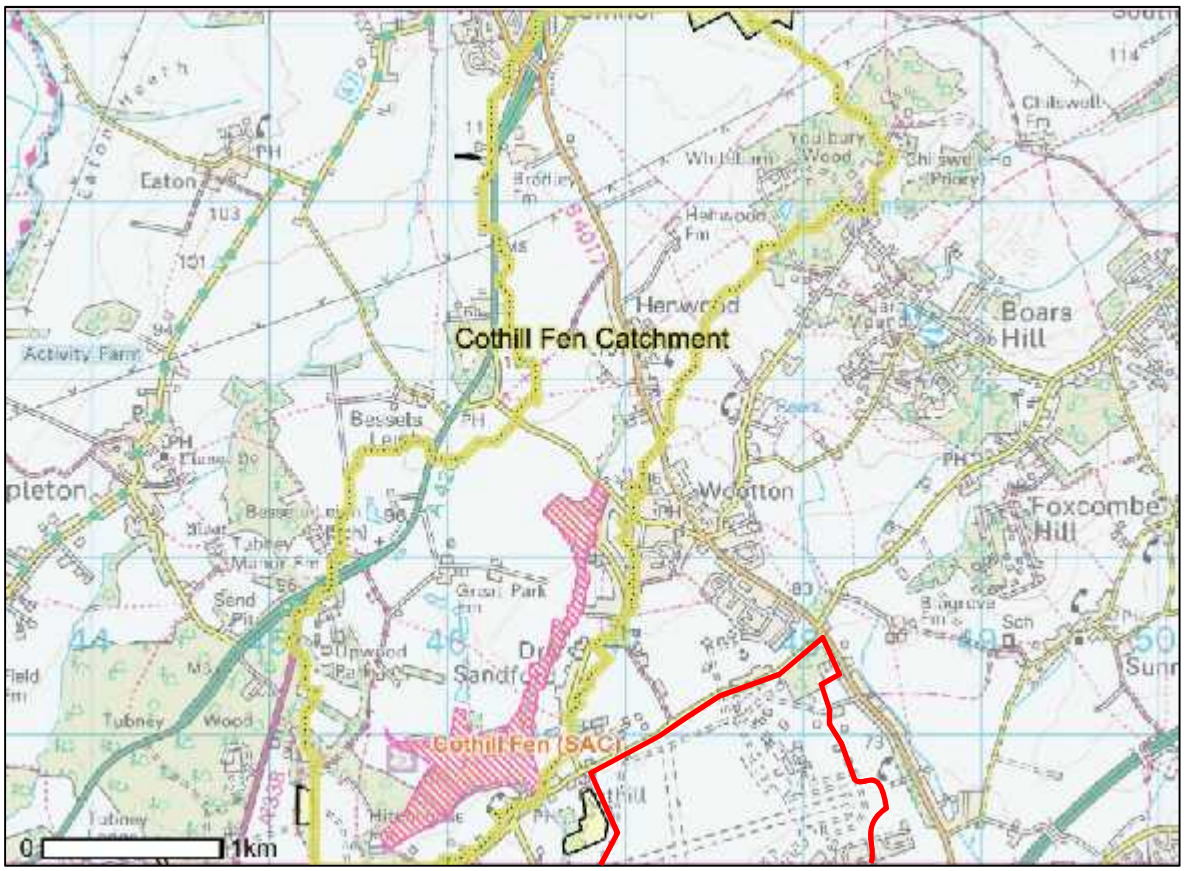
4.7 There are no major roads within 200 m of the Cothill Fen SAC, with only three minor roads being present (Cothill Road, Church Lane, Lashford Lane and Besselsleigh Road). Nevertheless, careful consideration has been given to the critical loads for air pollution on the alkaline fen habitat within the SAC, as detailed in Table 1 below. The Air Pollution Information System (2016) states that alluvial forests are not sensitive to air pollution.

Table 1: Critical loads for air pollution on alkaline fens within Cothill Fen SAC (source: www.apis.ac.uk accessed on 13 January 2017).

Type	Nitrogen Deposition (kg N/ha/yr)	Acid Deposition (keq/ha/yr)	Ammonia (NH_3) Conc^n (µg/m^3)	Mono-nitrogen oxides (NO and NO_2) Conc^n (µg/m^3)	Sulphur dioxide (SO2) Conc^n (µg/m^3)
Critical loads / levels	15 – 30	Habitat not sensitive to acidification	1 annual mean	30 annual mean	20 annual mean

Deposition / Concentration within the SAC	Min: 16.10 Ave: 17.46 Max: 18.34	NA	Min: 1.45 Ave: 1.72 Max: 1.90	Min: 17.27 Ave: 18.77 Max: 19.73	Min: 1.11 Ave: 1.20 Max: 1.34

Figure 1: Approximate hydrological catchment for Cothill Fen SAC (yellow) relative to the red line boundary of the Site (Source: Scott Wilson, 2008)



4.8 Recreational pressure is not identified as a current threat to Cothill Fen SAC.

Condition Assessment

4.9 The SAC is divided up into six SSSI units. In May 2009 five of the units (totalling 65.22% of the SAC) were in favourable condition and one of the units (referred to as Parsonage Moor; entailing 34.78% of the SAC) was in unfavourable recovering condition. The Wildlife Trust has an ongoing programme of management of the SAC including the Parsonage Moor unit which includes pony grazing, reed cutting, scrub removal and works to alter hydrology to wet up new areas.

Conservation Targets

4.10 Natura 2000 & Natural England (2016) have produced a lengthy list of conservation targets / objectives for Cothill Fen SAC. Those which are of relevance to the proposed development are detailed in Table 2 below.

Table 2: Relevant conservation objectives for Cothill Fen SAC

Conservation Targets	Explanatory Notes
Maintain natural hydrological processes to provide the conditions necessary to	Changes in the source, depth, duration, frequency, magnitude and timing of water supply to the SAC can have significant implications for the assemblage of characteristic plants and

sustain the H7230 feature within the site, including a high piezometric head and permanently high water table with groundwater at or very near surface level (allowing for natural seasonal fluctuations).	animals present. The site has been the subject of hydrological monitoring studies and it is known that water levels in the fen are remarkably stable. The extent of the groundwater catchment has been defined by the Environment Agency, which is effectively the zone around the site where there is the potential for impacts on water supply and quality.
Maintain the overall extent, quality and function of any supporting features within the local landscape which provide a critical functional connection with the SAC	This recognises the potential need to maintain or restore the connectivity of the site to its wider landscape in order to meet the conservation objectives. These connections may take the form of landscape features, such as habitat patches, hedges, watercourses and verges, outside of the designated site boundary which are either important for the migration, dispersal and genetic exchange of those typical species closely associated with qualifying Annex I habitat features of the site. These supporting features may also be important to the operation of the supporting ecological processes on which the designated site and its features may rely. Where opportunities arise to increase actual and functional landscape-scale connectivity this is likely to be beneficial.
Maintain as necessary, the concentrations and deposition of air pollutants to at or below the site-relevant Critical Load or Level values given for this feature of the site on the Air Pollution Information System	This habitat type is considered sensitive to changes in air quality. Exceedance of critical values for air pollutants may modify the chemical status of its substrate, accelerating or damaging plant growth, altering its vegetation structure and composition and causing the loss of sensitive typical species associated with it.
Maintain the structure, functions and supporting processes associated with alkaline fen and alluvial forests	Active and ongoing conservation management is needed to protect, maintain or restore this feature at this site. Light grazing is particularly associated with maintaining this feature.

Oxford Meadows SAC

4.11 Oxford Meadows (Natural England Site Code UK0012845) is an SAC and SSSI 265.89 ha in extent centred at Ordnance Survey national grid reference SU492090. At its closest point, the SAC is 7.7 km north-east of the Site.

Features of Interest

4.12 Oxford Meadows includes vegetation communities that are perhaps unique in reflecting the influence of long-term grazing and hay-cutting on lowland hay meadows. The site has benefited from the survival of traditional management, which has been undertaken for several centuries, and so exhibits good conservation of structure and function. Port Meadow is the largest of only three known sites in the UK for creeping marshwort *Apium repens*.

4.13 The site is designated under article 4(4) of the Directive (92/43/EEC) as it supports Lowland Hay Meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*) listed in Annex I of the Directive and creeping marshwort, a qualifying species listed in Annex II.

Threats and Pressures

4.14 The lowland hay meadows are identified as being most sensitive to: (1) Human induced changes in hydraulic conditions; (2) Pollution to surface waters; and (3) Invasive non-native species. South Oxfordshire District Council has also raised concerns regarding increased traffic negatively affecting air quality.

4.15 The critical loads for air pollution on lowland hay meadow habitat (acid and calcareous grassland) and creeping marshwort (neutral grassland) within the SAC are detailed in Table 3 below. The effects of exceedance / increased nitrogen deposition are identified as being an increase in tall grasses and a decrease in species diversity. The exceedance impacts / results of increased acidity is identified as causing a decrease in soil base saturation, increasing the availability of aluminium (Al3+) ions which may cause toxicity to plants and mycorrhiza, having direct effect on lower plants (bryophytes and lichens).

Table 3: Critical loads for air pollution on lowland hay meadows and creeping marshwort within Oxford Meadows SAC (source: www.apis.ac.uk accessed on 13 January 2017)

Type	Nitrogen Deposition (kg N/ha/yr)	Acid Deposition (keq/ha/yr)	Ammonia (NH_3) Conc^n (µg/m^3)	Mono-nitrogen oxides (NO and NO_2) Conc^n (µg/m^3 annual mean)	Sulphur dioxide (SO2) Conc^n (µg/m^3) annual mean
Critical loads / levels on lowland hay meadows	20-30	Acid grassland: Min N: 0.22-0.44 Max N: 2.58-4.56 Min S: 1.62 Max S: 4.12 Calc. grassland: Min N: 0.86-1.71 Max N: 4.86-5.71 Min S: 4.00 Max S: 4.00	2-4	30	10-20
Critical loads / levels on creeping marshwort	20-30	Min N: 0.86-1.71 Max N: 4.86-5.71 Min S: 4.00 Max S: 4.00	2-4	30	20
Deposition / Concentration within the SAC	Min: 16.24 Ave: 17.23 Max: 19.46	N S Min: 1.16 | 0.22 Ave: 1.23 | 0.23 Max: 1.39 | 0.25	Min: 1.42 Ave: 1.59 Max: 1.99	Min: 21.30 Ave: 21.77 Max: 26.05	Min: 1.37 Ave: 1.45 Max: 1.64

4.16 Recreational pressure is not identified as a current threat to Oxford Meadows SAC.

Condition Assessment

4.17 The SAC is divided up into ten SSSI units which have been assessed by Natural England throughout 2009-2011. At the time of the assessments, nine of the units (c. 99 % of the SAC) were in favourable condition and one of the units (referred to as Wolvercote Green; entailing < 1 % of the SAC) was in unfavourable recovering condition. Wolvercote Green comprises damp neutral grassland and swamp vegetation with a pond managed under an Higher Level Stewardship agreement.

Conservation Targets

4.18 Natura 2000 & Natural England (2014) have produced a brief list of conservation targets / objectives for Oxford Meadows SAC which includes 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.
- The distribution of qualifying species within the site.

4.19 The Supplementary Advice document, which provides more detailed advice and information to enable the achievement of the conservation objectives set out above, was not available at the time of writing this report.

5 Potential Effects and their Significance

Cothill Fen SAC

Potential Effects

Hydrology

5.1 Dalton Barracks is not within the hydrological catchment of the Cothill Fen SAC; therefore no hydrological impacts are anticipated.

Air Pollution

5.2 Currently, the air pollution affecting Cothill Fen SAC is within or exceeds the critical loads identified for both nitrogen deposition (maximum of 18.34 kg N/ha/yr; where critical load is 15-30 kg N/ha/yr) and ammonia levels (maximum of 1.9 µg/m^3; where annual mean is 1 µg/m^3). Ammonia is one of the key pollutants that contribute to nitrogen deposition. Increased nitrogen deposition would likely degrade the quality of the habitat, resulting in increased abundance of tall/coarse grasses thereby reducing species diversity including presence of fine leaved grasses, bryophytes, annuals and forbs.

5.3 Paul Basham Associates have monitored the existing number of vehicular movements, identifying weekday average figures over a 24 hour period as being approximately 1,000 arrivals and 1,100 departures (Paul Basham Associates, 2017). This level of traffic is considered likely to be approximately 20 % of the daily traffic which would be generated by Option 1 (2,280 dwellings).

5.4 During our consultation with Natural England they referred to the Department for Transport guidance (2007) which identifies negative air quality effects may occur where traffic flows increase by 1,000 vehicle movements or more per day[1] within 200 m of a designated site. A Natural England study (Natural England, 2016) identified "*Motor vehicle pollution has been demonstrated to affect vegetation, plant-insect interactions and soil fauna in both field and lab.-based studies. Impacts have been found to occur up to 200 m from roads, with the greatest impacts likely to occur in the first 50 m to 100 m*"

5.5 Given the location of the Site and existing infrastructure it is reasonable to anticipate that most residents and Site users would travel south or east to the A34 (linking to oxford and beyond to the north and Didcot and beyond to the south) and/or to the town of Abingdon. The B4017 is the only other major road in the vicinity of the Site, connecting with Wootton and Cumnor to the north. The B4017 is over 200 m from the SAC at its closest point. The remaining roads including those within 200 m of the SAC are only minor roads connecting villages such as Dry Sandford and Cothill. Given the small size of these villages and limited amenities (Dry Sandford Primary School containing less than 100 pupils; Cothill House boarding school for 220 pupils and the Merry Miller Bar and Restaurant at Cothill), there is considered to be little to warrant more than 1,000 vehicles (AADT (Annual Average Daily Traffic) making use of these minor roads each day. It is assumed at this stage that there will not be an increase of more than 1000AADT on roads within 200 m of Cothill Fen SAC.

5.6 Traffic models will be produced for the Site for outline planning application. These models will be provided to support this assessment. If an increase of more than 1000AADT on roads within 200 m of Cothill Fen SAC is anticipated through the traffic models then further air quality modelling would be required.

[1] Referred to within the Department for Transport guidance as Annual Average Daily Traffic (AADT) flows

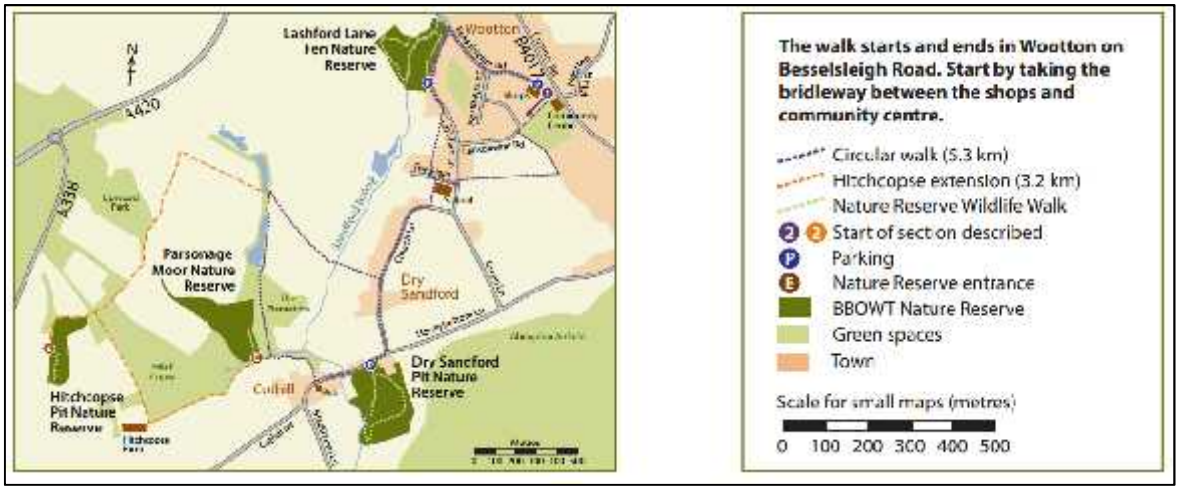
Recreational Pressure

5.7 Whilst recreation pressure is not identified as a threat to the SAC, the potential effects have been considered as some public rights of way exist that provide access to parts of the Cothill Fen SAC. Currently, there are approximately 1,400 personnel working at the Barracks. These Site users may make use of green space within the Site and local area (including the SAC) recreationally. The provision of up to 3,780 units within the Site and the wider area would lead to increase likelihood of use of the local landscape by recreational users such as dog walkers and those appreciating nature. Within a 1 km radius of the Site there are c. 10 km of public footpaths which connect the Site to:

- The town centre of Abingdon to the south-east.
- Sunningwell and Foxcombe Hill to the north-east.
- Wootton and Cothill to the north (including the Nature Reserves as detailed below).
- Gozzard's Ford to the west.

5.8 The Berkshire, Buckinghamshire & Oxfordshire Wildlife Trust (BBOWT) has produced a leaflet for self-guided circular walks to visit Nature Reserves around Cothill, Dry Sandford and Wootton. This includes three circular walks (see Figure 2), the longest of which includes parts of the SAC. There is c. 1,050 m of footpaths alongside the edge of the SAC and c. 415 m of paths within the SAC itself, with two paths crossing short sections of Parsonage Moor and Sandford Brook SSSI Units. Parking is available in the north and south of the SAC.

Figure 2: Circular walk options around Cothill, Dry Sandford and Wootton (BBOWT, 2015).



5.9 The effects of increased recreational pressure is considered likely to largely be mitigated for by the proposal to provide natural accessible greenspace within the development in the form of a Country Park, which will be more readily accessible to people than the SAC. The green space will need to serve a similar recreational function to the SAC by providing circular walks of varying lengths and interest features. A proportion of residents may choose to walk within the SAC which may result in increased trampling, however, it has been identified (VoWHDC, 2014) that currently "*the vast majority of those who do visit the site keep to existing paths due to the marshy nature of the fen vegetation (for which the SAC is designated) and keep their dogs off the site or under control as required by the access management rules of the various constituent nature reserves*". The potential impacts are therefore considered to be low.

5.10 Green space within the Site will be designed to tie in with Conservation Objectives of the SAC such as increasing the extent and quality of habitats to act as "*supporting features within the local landscape*" to provide a critical functional connection with the SAC. These connections may take the form of landscape features, such as habitat patches, hedges, watercourses and verges, which are either important for the migration, dispersal and genetic exchange of those typical species closely associated with qualifying Annex I habitat features of the site.

Cumulative Effects

5.11 The Vale of White Horse District Council (2014) concluded that likely significant effects on the SAC as a result of development (recreational pressure, water resources and water quality) within the Vale of White Horse District under the Local Plan Part 1 would not occur.

5.12 Developments considered likely to have in combination effects on Cothill Fen SAC are (i) those identified for allocation within the Vale of White Horse Local Plan Part 2 (albeit still in progress) and (ii) planning applications for more than five new homes within a plot submitted, pending decision or with approval within the Parish of Wootton that could lead to recreational pressure or air quality impacts on the SAC.

5.13 The Local Plan Part I makes provision for a total of 20,560 new homes and 23,000 new jobs, of which 5,438 new homes will be delivered in the Abingdon and Oxford fringe sub-area between 2011 and 2031. The Local Plan Part II will identify sites for housing to meet the remainder of the Vale's own housing need, which is not identified in Local Plan Part 1, and for the Vale's allocation of Oxford's unmet housing need.

5.14 Searching the Vale of White Horse (VoWH) Planning Portal has identified a single development for construction of 64 dwellings which was granted full approval on 9 September 2016 (VoWH Reference; P16/V0290/RM). This development is situated 1.3 km north of the Site, located east of the junction between Besselsleigh Road and Lashford Lane centred at OS national grid reference SP47000140. This is within 30 m of Cothill Fen SAC. Provision of amenity areas within the development is limited (less than 0.1 ha) such that residents are likely to make use of the local landscape for recreation activities, including Cothill Fen SAC which is immediately opposite the development. Given this development's proximity to the designated site it is assumed the Council (as the competent authority) has conducted a Habitats Regulation Assessment and concluded the development will have no significant effect.

Significance of Effects

5.15 Recreational effects are not considered likely to be significant because of the limited points of access, physical constraint to access, and likely low numbers of new users due to the provision of readily accessible green space within the development.

5.16 The significance of effects on air quality will be determined when the outcomes of the strategic study become available.

Oxford Meadows SAC

Potential Effects

Hydrology

5.17 Dalton Barracks is not within the hydrological catchment of the Oxford Meadows SAC therefore no hydrological impacts are anticipated.

Air Pollution

5.18 Currently, the air pollution affecting Oxford Meadows is below the critical level for each pollutant, however, both nitrogen deposition (maximum of 19.46 kg N/ha/yr; where critical load is 20-30 kg N/ha/yr) and ammonia levels (maximum of 1.99 µg/m^3; where critical load is 2-4 µg/m^3) are close to their critical loads.

5.19 Air quality effects on Oxford Meadows SAC as a result of new development is an issue that is now being considered as a wider, strategic, cross-boundary (Oxfordshire-wide) issue in an initiative being led by the Oxfordshire Planning Policy Group (OPPG). The contribution of residential development within the Vale of White Horse will be considered as part of the assessment. The

applicant would be happy to work with the OPPG to provide the data required to enable allocation of Dalton Barracks.

Recreational Pressure

5.20 Whilst recreation pressure is not identified as a threat to the SAC, the potential effects have been considered. Dalton Barracks is located 7.7 km away from the southernmost tip of the Oxford Meadows SAC (which is the component Port Meadow SSSI). The most direct access to the Meadow is a 9 mile route via the A34 which takes 18 minutes to complete without traffic and could reasonably be expected to be at least twice this in heavy traffic. Although there are Pay and Display car parks and informal free parking areas in walking distance of the SAC, the distance from the Site is likely to make routine recreational use of the Meadow an unattractive option, unless for example, the resident also works in the centre of Oxford. The provision of readily accessible greenspace within the development is considered likely to be more attractive to every day recreational users than the SAC. The effects of recreational pressure on Oxford Meadows SAC are therefore considered to be negligible.

Cumulative Effects

5.21 Given that recreational effects on the SAC are considered to be negligible, cumulative recreational effects are considered unlikely.

5.22 The Vale of White Horse District Council (2014) Local Plan Part 1 concluded that housing across Oxfordshire will result in an increase in nitrogen deposition and NOx concentration within a small part of the Oxford Meadows SAC as it lies adjacent to the A34 and A40. They stated "*Although the Vale of White Horse contribution to nitrogen deposition will be small enough to be trivial, its contribution to changes in NOx concentrations will be small but greater than trivial. As such the Oxfordshire authorities are undertaking more detailed studies to investigate air quality within the SAC adjacent to the A34 and A40, which will in turn inform specific mitigation interventions*."

5.23 The outcome of the strategic study will inform approaches to avoidance and mitigation of potential traffic and subsequent air quality effects on the SAC at a County-wide scale. The applicant would be willing to support the study and its outcomes.

Significance of Effects

5.24 The significance of effects on air quality will be determined when the outcomes of the strategic study become available.

6 References

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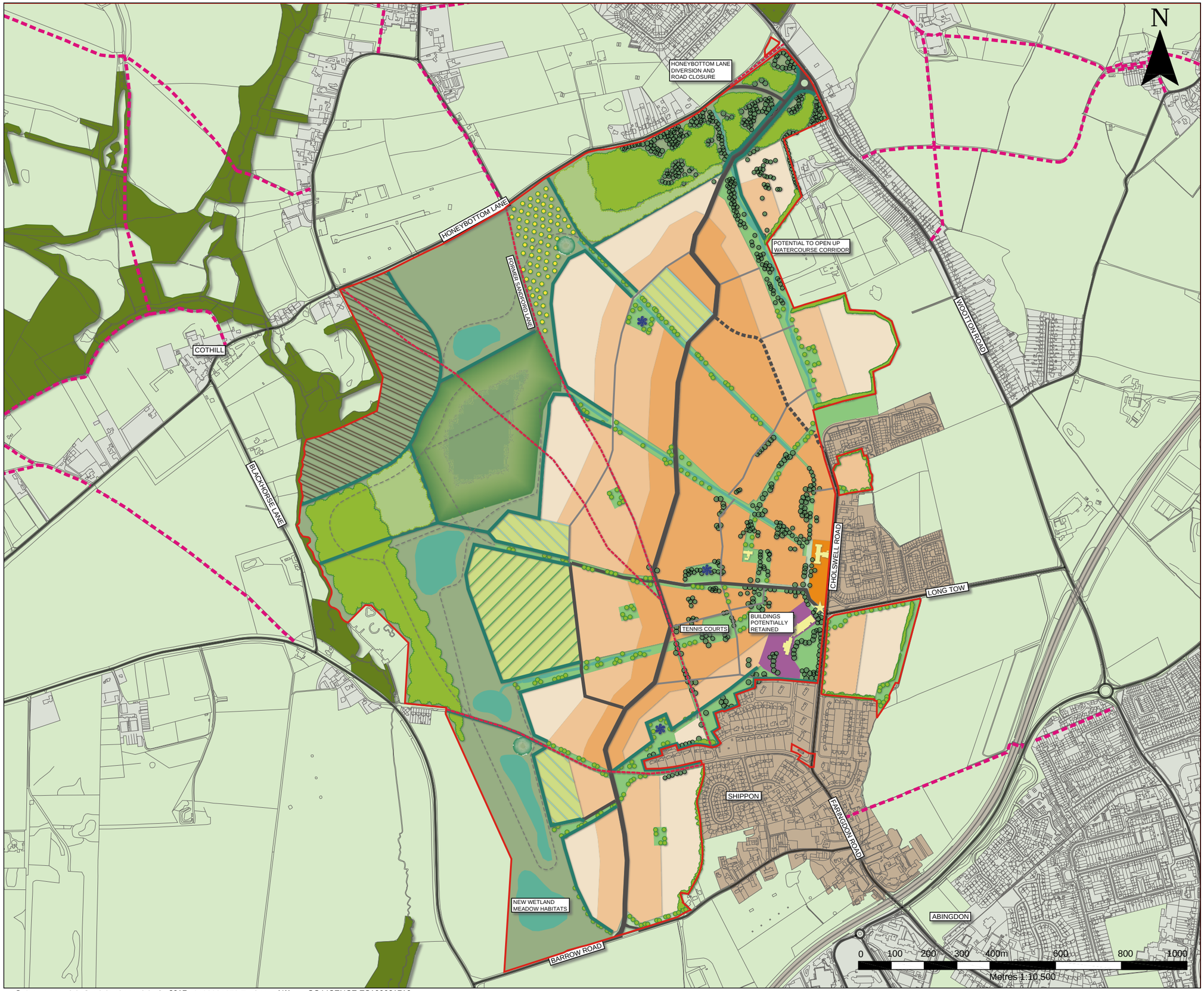
Appendix 1: Concept Master Plan



LEGEND

- SITE BOUNDARY (288Ha)
- HIGHER DENSITY RESIDENTIAL (45.68Ha)
- MEDIUM DENSITY RESIDENTIAL (46.82Ha)
- LOWER DENSITY RESIDENTIAL (31.60Ha)
- SECONDARY SCHOOL (10.55Ha)
- PRIMARY SCHOOLS (6.65Ha)
- LOCAL CENTRE (1.03Ha)
- EMPLOYMENT (2.05Ha)
- BUILDINGS PROPOSED FOR RETENTION
- PARKLAND (111.76Ha)
- OTHER GREEN SPACES AND GREEN LINKS (27.43Ha) (INCLUDING HIGHWAYS)
- EXISTING TREES
- NATIVE WOODLAND / WET WOODLAND
- WOOD PASTURE
- ILLUSTRATIVE URBAN TREE PLANTING
- COMMUNITY ORCHARD
- REINSTATED / SPECIES RICH HEDGEROW
- COMMUNITY ALLOTMENTS
- LARGE SCALE PLAYSCAPE / LAND ART
- NEIGHBOURHOOD PARKS
- SSSI HABITAT BUFFER
- INDICATIVE BALANCING BASINS & SWALES / WETLAND HABITATS
- SPINE ROAD CORRIDOR (4.43Ha) (NORTH SOUTH LINK ONLY)
- SECONDARY HIGHWAYS
- POTENTIAL BUS LINK
- REINSTATED FOOTPATHS / LANES AS FOOTPATHS
- PUBLIC RIGHTS OF WAY
- INDICATIVE PUBLIC PATHS THROUGH COUNTRY PARK

Note: These areas are indicative only and should be verified through more detailed design and are subject to planning

SLR global. environmental solutions

LANGFORD LODGE
109 PEMBROKE ROAD
CLIFTON, BRISTOL
BS8 3EU
T: 01179 064280
F: 01173 179535
www.slrconsulting.com

CARTER JONAS LLP
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