Appropriate Assessment of the Hollands Farm Supplementary Planning Document

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Quality information

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1. Introduction

1.1 Buckinghamshire Council (BC) commissioned AECOM to undertake Appropriate Assessment (AA; a stage of Habitats Regulations Assessment, HRA) on the emerging Supplementary Planning Document (SPD) for the Hollands Farm residential development. The objective of the AA is to evaluate whether the implementation of the SPD will result in adverse effects on the site integrity of European sites.

1.2 BC undertook a screening assessment for Likely Significant Effects (LSEs; the first stage of an HRA) of the SPD. This assessment determined that the SPD would result in LSEs on the Burnham Beeches SAC, which was in line with the conclusion of the Local Plan and its HRA. The Hollands Farm site was allocated in Wycombe District's Local Plan, and the LP already identified LSEs and mitigation measures appropriate for the Local Plan level (i.e. setting the over-arching policy framework to ensure that this development would be delivered without adverse effects on the integrity of European sites). The SPD sets the overall development brief for the Hollands Farm development.

1.3 When the UK was first required to undertake HRA of plans, Advocate-General Kokott commented on the apparent tension between the requirements of the Habitats Directive and the intentionally broad nature of strategic plans. She responded that to address this apparent tension *'It would …hardly be proper to require a greater level of detail in preceding plans* [rather than lower tier plans or planning applications] *or the abolition of multi-stage planning and approval procedures so that the assessment of implications can be concentrated on one point in the procedure. Rather, adverse effects on areas of conservation must be assessed at every relevant stage of the procedure to the extent possible on the basis of the precision of the plan*. *This assessment is to be updated with increasing specificity in subsequent stages of the procedure'* [i.e. for planning applications or lower tier plans].

1.4 In line with that ruling, since the SPD provides a further tier of detail beyond the Local Plan, it is necessary for it to also add further detail to both the HRA and the mitigation measures identified as being necessary to protect the SAC. The SPD sets out the mitigation measures in more detail and an AA is needed to assess whether these proposals are sufficient and appropriate to protect the SAC's site integrity. A still greater (definitive) level of detail will be required for individual outline or detailed planning applications, as that will be the point at which development will actually be consented to proceed.

1.5 The Local Plan and its HRA identified financial contributions to enhancements of Little Marlow Lakes Country Park and its access as being the mitigation measure for the Hollands Farm development and Natural England concurred with that solution. The Little Marlow Lakes Country Park (LMLCP) lies approx. 1.5km from the residential development proposed at Hollands Farm. It is ideally situated to absorb recreational pressure locally, as it lies much closer to the development site than the Burnham Beeches SAC (approx. 4km away). However, proximity is not the only consideration, the core recreational catchment of the SAC is 5.6km and it is well known that many European sites exert a disproportionately strong recreational pull on residents because of their attractive features and large expanse. The proposed mitigation measures therefore centre around improvements to the LMLCP and its access. In an initial draft of the SPD, BC identified an initial list of potential mitigation measures for consideration. AECOM have reviewed and expanded upon this list as a basis for the enhancements and recommendations provided by AECOM in the AA.

Legislative Context

1.6 The UK left the EU on 31 January 2020 under the terms set out in the European Union (Withdrawal Agreement) Act 2020 ("the Withdrawal Act"). This established a transition period, which is currently set to end on 31 December 2020. The Withdrawal Act retains the body of existing EU-derived law within our domestic law. During the transition period EU law applies to and in the UK.

1.7 The need for Appropriate Assessment is set out by the Conservation of Habitats and Species Regulations 2017 (as amended). The precautionary principle[1] applies to assessments of European Sites. Consent should only be granted for plans and projects once the relevant competent authority has ascertained that there will either be no likelihood of significant effects, or that a mechanism is in place to ensure that no adverse effect on the integrity of the European Site(s) in question arises. Where an Appropriate Assessment has been carried out and results in a negative assessment, or if uncertainty remains over the significant effect, consent can only be granted if there are no alternative solutions and there are Imperative Reasons of Over-riding Public Interest (IROPI) for the development and compensatory measures have been secured.

1.8 To ascertain whether site integrity will be affected, an Appropriate Assessment should be undertaken of the plan or project in question. Figure 1 provides the legislative basis for an Appropriate Assessment.

> **Conservation of Habitats and Species Regulations 2017 (as amended)**
>
> The Regulations state that:
>
> "*A competent authority, before deciding to … give any consent for a plan or project which is likely to have a significant effect on a European site … must make an appropriate assessment of the implications for the plan or project in view of that site's conservation objectives… The competent authority may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site."*

Figure 1. The legislative basis for Appropriate Assessment

1.9 Over the years, 'Habitats Regulations Assessment' (HRA) has come into wide currency to describe the overall process set out in the Habitats Regulations, from screening through to identification of IROPI. This has arisen in order to distinguish the overall process from the individual stage of "Appropriate Assessment". Throughout this Report the term HRA is used for the overall process and restricts the use of Appropriate Assessment to the specific stage of that name.

Scope of the Project

1.10 An initial review of the HRA for Wycombe's Local Plan (2019) indicates that the following European sites were assessed:

- Chilterns Beechwoods SAC;
- Burnham Beeches SAC; and
- Aston Rowant SAC.

1.11 The HRA of the adopted Wycombe Local Plan already assessed atmospheric pollution on the Chilterns Beechwoods SAC, the Aston Rowant SAC and the Burnham Beeches SAC. Air quality modelling indicated that there would be no adverse effects on the site integrity of these sites, alone or in-combination with Local Plans of surrounding authorities from the planned scale of growth. Given that this assessment included growth across all of the District (and included the Hollands Farm allocation), this impact pathway does not require reassessment here.

1.12 Recreational pressure as a result of the LP on the Chilterns Beechwoods SAC and the Burnham Beeches SAC was also assessed. Recreational pressure effects of the Princes Risborough expansion on the Chilterns Beechwoods SAC were concluded not to result in adverse effects, alone or in-combination. However, the HRA concluded that residential development in Bourne End and Wooburn (including the Hollands Farm allocation) would have to be mitigated to avoid compromising the site integrity of the Burnham Beeches SAC, particularly in-combination with the growth in adjacent authorities. The HRA of the SPD therefore focuses on the impact pathway

[1] The Precautionary Principle, which is referenced in Article 191 of the Treaty on the Functioning of the European Union, has been defined by the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2005) as:
"*When human activities may lead to morally unacceptable harm [to the environment] that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm. The judgement of plausibility should be grounded in scientific analysis*".

of recreational pressure on Burnham Beeches SAC. An introduction to this site, including its qualifying features (species and habitats), conservation objectives, and threats and pressures to site integrity, is set out in Chapter 3 of this report.

1.13 In order to fully inform the AA, several studies and information databases have been consulted to determine whether adverse effects from the Hollands Farm SPD are likely to arise. These include:

- Future development proposed in (and, where available, HRAs for) the local plans for adjoining areas within Buckinghamshire under the new Buckinghamshire Council (Chiltern, South Buckinghamshire, and Aylesbury Vale), as well as in adjoining authorities of Windsor & Maidenhead, Wokingham, South Oxfordshire;
- Visitor surveys carried out in the Burnham Beeches SAC, and the resulting mitigation strategy, as they are relevant to the potential mitigation requirements set out in the AA;
- The HRA produced for the adopted Wycombe Local Plan[2];
- The Site Improvement Plan and Conservation Objectives for Burnham Beeches SAC;
- The Core Management Plan for the Burnham Beeches SAC; and
- Multi Agency Geographic Information for the Countryside (MAGIC) and its links to SSSI citations and the JNCC website (www.magic.gov.uk).

Quality Assurance

1.14 This report was undertaken in line with AECOM's Integrated Management System (IMS). Our IMS places great emphasis on professionalism, technical excellence, quality, environmental and Health and Safety management. All staff members are committed to establishing and maintaining our certification to the international standards BS EN ISO 9001:2008 and 14001:2004 and BS OHSAS 18001:2007. In addition, our IMS requires careful selection and monitoring of the performance of all sub-consultants and contractors.

1.15 All AECOM Ecologists working on this project are members (at the appropriate level) of the Chartered Institute of Ecology and Environmental Management (CIEEM) and follow their code of professional conduct (CIEEM, 2017).

[2] https://www.wycombe.gov.uk/uploads/public/documents/Planning/New-local-plan/Local-plan-examination-2018/WDLP3B-Revised-Habitats-Regulations-Assessment-January-2019.pdf

2. Methodology

Introduction

2.1 Figure 2 below outlines the stages of HRA according to current Ministry of Housing, Communities and Local Government guidance. The stages are essentially iterative, being revisited as necessary in response to more detailed information, recommendations and any relevant changes to the planning document until no significant adverse effects remain. The screening for LSEs was already undertaken by BC (and validated by AECOM) and therefore only HRA Task 2 and Task 3 are discussed in more detail below.

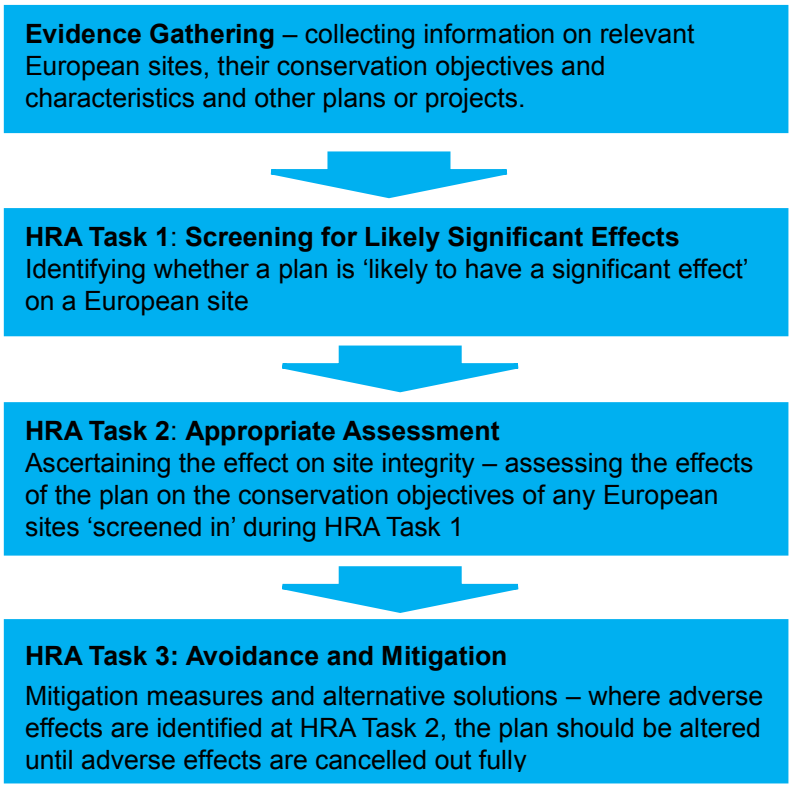

Figure 2: Four Stage Approach to Habitats Regulations Assessment. Source GOV.UK, 2019.

HRA Task 2 – Appropriate Assessment (AA)

2.2 Where it is determined that a conclusion of 'No Likely Significant Effect' cannot be drawn, the analysis is progressed to the next stage of HRA known as Appropriate Assessment. Case law has clarified that 'appropriate assessment' is not a technical term. In other words, there are no particular technical analyses, or level of technical analysis, that are classified by law as belonging to Appropriate Assessment rather than determination of likely significant effects.

2.3 By virtue of the fact that it follows Screening, there is a clear implication that the analysis will be more detailed than undertaken at the Screening stage and one of the key considerations during Appropriate Assessment is whether there is available mitigation that would entirely address the potential effect. In practice, the Appropriate Assessment would take any part of the SPD that could not be dismissed following the high-level Screening analysis and analyse the potential for an effect in more detail, with a view to concluding whether there would actually be an adverse effect on integrity (in other words, disruption of the coherent structure and function of the European site(s)). It would then identify a comprehensive mitigation strategy to avoid adverse effects on the integrity of such sites.

2.4 A decision by the European Court of Justice[3] concluded that measures intended to avoid or reduce the harmful effects of a proposed project on a European site may no longer be taken into account by competent authorities at the Likely Significant Effects or 'screening' stage of HRA. That ruling has been taken into account in producing this HRA.

2.5 Also, in 2018 the Holohan ruling[4] was handed down by the European Court of Justice. Among other provisions paragraph 39 of the ruling states that '*As regards other habitat types or species, which are present on the site, but for which that site has not been listed, and with respect to habitat types and species located outside that site, … typical habitats or species must be included in the appropriate assessment, if they are necessary to the conservation of the habitat types and species listed for the protected area*' [emphasis added]. However, it is noted that the Burnham Beeches SAC is not designated for mobile species that depend on functionally linked habitat.

2.6 The HRA of the adopted Local Plan considered whether there were habitats or species outside the boundary of the SAC that were essential to the ability of the SAC to meet its conservation objectives. It also considered whether there were habitats and species within the boundary of the SAC, but for which the SAC was not designated, that were essential to the ability of the SAC to meet its conservation objectives. It was concluded that the only habitat or species (whether inside or outside the SAC boundary) relevant to the ability of the SAC to achieve its conservation objectives is the beech woodland for which the site is designated. Protecting the beech woodland will protect all those species that depend upon the woodland.

HRA Task 3 – Avoidance and Mitigation

2.7 Where necessary, measures are recommended in this report for incorporation into the Supplementary Planning Document (SPD) in order to avoid or mitigate adverse effects on European sites. There is considerable precedent concerning the level of detail that a SPD needs to contain regarding mitigation for recreational impacts on European sites. The implication of this precedent is that it is not necessary for all measures that will be deployed to be fully developed prior to adoption of the Development Brief/SPD, but the SPD must provide an adequate framework within which these measures can be delivered and should expand upon the detail provided in the Local Plan and its HRA. The SPD will set out detail regarding the proposed mitigation measures needed to ensure that there will be no adverse effects on the integrity of the SAC. This will allow individual planning applications and any mitigation measures to be promoted with clarity. Mitigation requirements will be attached to individual planning applications and will be assessed in detail in the project-level HRA.

[3] People Over Wind and Sweetman v Coillte Teoranta (C-323/17)
[4] Case C-461/17

3. European sites

Burnham Beeches SAC

Introduction

3.1 The Burnham Beeches SAC is a 383.71ha site in south-east England, comprising broadleaved deciduous woodland (90%), heath / scrub (5%) and coniferous woodland (5%). It is designated for its beech forests with *Ilex* and *Taxus* in the shrublayer. The SAC is an extensive area of former beech wood-pasture with many old pollards and associated beech / oak high forest. Furthermore, it is one of the most diverse sites for saproxylic invertebrates in the UK, including 14 Red Data Book species. It also some of the most important epiphytic lichen assemblages, such as the moss *Zygodon forsteri*.

3.2 In the past 20 years extensive grazing has been reintroduced on 164ha in the SAC with the aim to create a more open woodland and structural diversity. Part of the Burnham Beeches SAC, the southern half that is also designated as a National Nature Reserve (NNR), has open public access (managed by the City of London Corporation) and hence has a long-standing history as a valued recreational space. Over 500,000 people visit the site annually, meaning that the site has to fulfil the challenging dual role of nature conservation, while having to absorb recreational pressure.

Qualifying Features[5]

3.3 Annex I habitats that are a primary reason for selection of this site:

- Atlantic acidophilous beech forests with *Ilex* and sometimes also *Taxus* in the shrublayer (*Quercion robori-petraeae* or *Ilici-Fagenion*)

Conservation Objectives[6]

3.4 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;

3.5 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
- The structure and function (including typical species) of qualifying natural habitats, and
- The supporting processes on which qualifying natural habitats rely

Threats / Pressures to Site Integrity[7]

3.6 Natural England's Site Improvement Plan identifies the following threats and pressures to the site integrity of the Burnham Beeches SAC:

- Air pollution: Risk of atmospheric nitrogen deposition
- Public access / disturbance
- Habitat fragmentation
- Deer

[5] https://sac.jncc.gov.uk/site/UK0030034 [Accessed on the 18/06/2020]
[6] http://publications.naturalengland.org.uk/publication/6014456282742784 [Accessed on the 18/06/2020]
[7] http://publications.naturalengland.org.uk/publication/5689860228644864 [Accessed on the 18/06/2020]

- Species decline
- Invasive species

4. Appropriate Assessment

Recreational Pressure in the Burnham Beeches SAC

In-Combination Evidence Base

4.1 The number of visitors to the SAC has varied over time but now stands at approx. 500,000 visitors per year. Following advertisement in the London area many people visited the site by using public transport (prior to the COVID-19 epidemic). However, as residential development surrounding the SAC has increased, many people now live more locally and visit on foot or by car.

4.2 The Burnham Beeches SAC has also been traditionally popular with dog walkers (many of whom tend to live relatively locally) and has experienced significant impacts from dog fouling. For example, one study found that the total amount of urine and faeces left by dogs in the Burnham Beeches NNR over one year, equates to 30,000 litres and 60 tonnes respectively[8]. This issue resulted in the introduction of Dog control orders (DCOs; ultimately replaced by Public Space Protection Orders, PSPOs) in December 2014. These measures have reportedly resulted in a shift in the visitor distribution within the site and a reduction in the number of PSPO incidents reported from the site[9]. Notwithstanding this, dog walking remains an issue in the SAC and interventions providing for locally accessible greenspace are likely to help reduce the impact of dog walking in the SAC further.

4.3 Despite measures to reduce recreational impacts, there is concern about the level of pressure on the qualifying features of the SAC. This especially applies to new homes being built within easy travel distance of the SAC. The impact of urban development on the Burnham Beeches SAC has been extensively studied in recent years. For example, a recent study[10] assessed the impact of urban development in the SAC and suggested options for mitigation. This report was informed by three visitor surveys carried out in 2013[11], 2016[12] and 2017.

4.4 It is to be noted that data from visitor surveys provide in-combination data, which help to establish recreational catchments of European sites and help to assign the relative recreational footprint that derives from different authorities. This information formed the basis of most recreation mitigation strategies that have been developed for European sites in the UK.

4.5 Two key pieces drawn from the visitor survey work have implications for development plans, in particular the distribution of new housing. Firstly, the data established that an additional dwelling within 500m of the SAC would generate as many recreational visits as 57 dwellings located 4km from the SAC. As a result, a 500m exclusion zone for development was recommended around the SAC boundary.

4.6 Secondly, the postcodes from interviewees were used to delineate a core recreational catchment or Zone of Influence around the SAC from which 75% of visitors derive. The 75th percentile of postcode data surrounding the SAC lies at 5.6km, and any increase in housing within this zone requires Habitats Regulations Assessment and mitigation measures. Additional housing within 5.6km of the Burnham Beeches SAC is concluded to result in Likely Significant Effects.

4.7 Other local authorities proposing residential development within the core recreational catchment of the SAC have developed mitigation solutions to avoid adverse effects on site integrity. For example, the former Chiltern and South Buck District Councils published a Burnham Beeches

[8] Barnard A. (2003). Getting the facts – Dog walking and visitor number surveys at Burnham Beeches and their implications for the management process. Countryside Recreation 11: 16-19.
[9] Liley D. (2019). Impacts of urban development at Burnham Beeches SAC and Options for Mitigation: update of evidence and potential housing growth. Report by Footprint Ecology for Chiltern and South Bucks Councils.
[10] Ibid
[11] Wheater CP & Cook PA. (2012). Burnham Beeches Visitor Survey Report 2010/11. Report for the City of London Corporation.
[12] Wheater CP & Cook PA. (2016). Burnham Beeches Visitor Survey Report 2015/16. Unpublished Report for the City of London Corporation.

Mitigation Strategy[13] to mitigate the residential development allocated in the Chiltern and South Bucks Local Plan. The strategy consists of three main pillars:

- Presumption against development in the 500m exclusion zone
- Financial contributions to Strategic Access Management and Monitoring (SAMM) project in the Burnham Beeches SAC, to be funded in perpetuity (80 years) through Section 106 agreements
- 5-yearly review of the mitigation strategy, considering the evidence / data that is available from the SAMM projects.

Hollands Farm Allocation

4.8 The site is allocated in the Wycombe District Local Plan under Policy BE2 Hollands Farm, Bourne End and Wooburn. The Local Plan indicated that the site would be capable of delivering 467 dwellings. Hollands Farm lies approx. 4km from the Burnham Beeches and therefore within the core recreational catchment of the SAC. Therefore, mitigation measures must be provided to avoid adverse effects on site integrity. The Local Plan acknowledged this in Policy BE2, which stated that:

'3. Green Infrastructure / Environment

a) Provide on-site high-quality open space

b) Provide S106 contributions to mitigate recreational impacts at Burnham Beeches SAC'

Specific detail on how the S106 funds would be used for recreation mitigation were not included in the Local Plan, as this is a high-level planning document that only needs to set the over-arching policy framework for the protection of the SAC.

4.9 In line with Wycombe's Habitats Regulations Assessment Screening Report for the SPD and recent Natural England advice, the supporting text to Policy BE2 (see paragraph 5.4.25 of the Local Plan) further specifies that S106 contributions will be collected from the developer and used for improvements to the Little Marlow Lakes Country Park. Opportunities for enhancement include improved access to the park by sustainable travel modes and enhancements to the park itself. Importantly, the Local Plan states that projects in the Country Park will be delivered in addition to the specifications set out in Policy DM16 'Open Space in New Development' of the adopted Delivery and Site Allocations Plan for Town Centres and Managing Development.

Mitigation Contained Within the Development Brief

4.10 Notwithstanding the proposed enhancements to the LMLCP, the draft Hollands Farm Development Brief already includes some other measures that will contribute to a reduction in the visitor pressure that would otherwise arise from residential growth. For example, Chapter 6 'Development Framework' sets out the green and blue infrastructure principles for Hollands Farm. Assuming 467 dwellings will be delivered on site, 3.85ha of Strategic Open Space and 1.34ha of Local Open Space will be required. The Local Open Space will be provided within the net developable area, while it is currently also assumed that all Strategic Open Space will be located on-site. All local accessible open space that does not currently exist (especially the park area of 1.95ha) will be positive for protecting the integrity of the Burnham Beeches SAC. This is because research has shown that distance from home is an important factor in determining the probability of recreational visits and visitor numbers in European sites increase with the amount of residential development nearby[14]. In other words - likelihood of visiting a greenspace decreases with distance from home. Figure 6.1 in the Development Framework shows the indicative distribution

[13] Chiltern and South Bucks District Councils. Mitigation Strategy: Public Access and Disturbance. Burnham Beeches Special Area of Conservation. 16pp. Available at: https://www.chiltern.gov.uk/media/15703/Burnham-Beeches-Mitigation-Strategy-Version-1-120320-draft8/pdf/Burnham_Beeches_Mitigation_Strategy_Version_1_120320-draft8.pdf?m=637199639047500000#:~:text=The%20strategy%20is%20intended%20to,as%20a%20result%20of%20public [Accessed on the 30/07/2020]

[14] Weitowitz DC, Panter C, Hoskin R & Liley D. (2019). The effect of urban development on visitor numbers to nearby protected nature conservation sites. Journal of Urban Ecology 5: 1-12.

of the open space, which will be accessible from the new housing, and is to be largely located on the western side and centre of the development.

4.11 Figure 6.4 of the Development Framework illustrates the movement framework options currently envisaged for the site. It shows several walking and cycling routes that may be delivered as part of the Hollands Farm allocation. One option is considered to be particularly relevant to the LMLCP, because it will enhance connectivity with the riverside, the Thames Path and ultimately the country park. If Option G (pedestrian / cycle route within the development boundary) was to be delivered in conjunction with Option O (pedestrian / cycle route outside the site boundary), this would enable direct access to Claytons Meadow. The River Thames and a route towards the LMLCP would then be much more accessible. This movement framework option would ensure that Policy BE2 of the Wycombe District Plan is appropriately implemented and that Natural England's advice on increasing accessibility of the LMLCP by sustainable / active transport modes is facilitated.

4.12 Furthermore, Chapter 7 'Planning and Development Delivery' of the development brief specifies that mitigation is required under the HRA process. This is relevant because a key role of the SPD is to set the guidelines and parameters for subsequent planning applications. It refers back to section 3(b) of Policy BE2 in the Wycombe District Local Plan for clarity. Furthermore, the brief specifies that the developer will need to pay Section 106 contributions, which will be directed towards the development of the Little Marlow Lakes Country Park thus clearly enshrining the necessary mechanism for delivering the mitigation measures. In the supporting text to Policy BE2 the Local Plan stipulates that the funds should deliver improvements in the LMLCP and facilitate access to the park via sustainable travel modes. While the development brief provides parameters for how the Hollands Farm allocation may be developed, it does not yet identify specific measures and improvements to be delivered in the LMLCP. The purpose of this HRA is to identify a mitigation package to be incorporated into the draft SPD. The draft AA will be published alongside the SPD and will be finalised following the end of the consultation process. Prior to public consultation a local liaison group of community representatives will review the draft AA.

4.13 Buckinghamshire Council (BC) provided an initial list of projects that could be delivered in the park, to attract more visitors. A specialist in recreational pressure on European sites at AECOM considered these proposals and undertook a site visit to develop further ideas for improvements. Therefore, the remainder of this HRA will discuss the LMLCP, the likely effectiveness of mitigation measures and whether these would allow a conclusion of 'no adverse effect' on the site integrity of the Burnham Beeches SAC.

The Little Marlow Lakes Country Park

Introduction

4.14 To support the Hollands Farm SPD and its AA, BC provided an initial list of potential improvements that could be delivered in the Country Park to improve its attractiveness and accessibility to local residents. The primary goal of these measures is to divert recreational pressure away from the Burnham Beeches SAC. To gain a better overview of the nature of the existing provisions in the LMLCP and to develop BC's suggested interventions further, an AECOM ecologist experienced in recreational pressure issues undertook a site visit on 19th June 2020, adhering to government guidance on COVID-19 precautions such as social distancing.

4.15 The proposed LMLCP comprises several waterbodies between Little Marlow to its north and the River Thames to its south. Along the River Thames the LMLCP comprises part of the Thames Path. The western lakes are part of the Westhorpe Water Sports Club and are not open to general public access (except for those undertaking water sports). The eastern lake comprises the Spade Oak Nature Reserve with a peninsula called 'The Spit'. The Little Marlow Sewage Treatment Works lie in the centre of the LMLCP (although there was no smell emanating from the facility during the visit) and is excluded from public access. The various Public Rights of Way that run through the site clearly vary in their current levels of access. While the Thames Path was very busy (over 50 people were counted anecdotally while walking this section), other sections of the LMLCP were very quiet. For example, few dog walkers and people walking were observed, indicating that the site would clearly benefit from improvements particularly related to these user groups. Only one couple was met on multiple occasions, who appeared to be walking a circular route around the site. Clearly the current COVID-19 situation means baseline usage is unlikely

to represent normal conditions but the fact that the Thames Path was quite busy shows that the relative quietness of the rest of the park compared to other areas was not due to a general lack of public activity.

4.16 The entire park was traversed during the site visit, resulting in a total distance of 4.93 miles walked (see Figure 1 for an overview of route parameters), approx. a 3.5 hour walk with occasional stops and note-taking in between. A general observation is that the LMLCP offers a very attractive destination close to an urban setting, with parts of the site (especially Spade Oak Nature Reserve) providing the feel of a relatively wild / scenic surrounding. Therefore, it is considered that the park is well suited to absorb local recreational interest. Part of the site comprises interesting woodland with a diverse mix of broadleaved tree and shrub species, including ash, oak, willow, beech, hazel, hawthorn, blackthorn and maple species. The site also offers visitors the opportunity to walk circular routes of varying length, thereby providing appeal to a wide age range and different physical abilities. Notwithstanding this, some parts of the site would greatly benefit from repair works and / or enhancements (see the following section).

Mitigation Proposals

4.17 In the site walkover particular attention was given to enhancements that are likely to make the LMLCP more accessible and attractive and increase its overall visitor capacity. The interventions suggested by AECOM are discussed in Table 1 and are marked in Figure 3. Pictures illustrating some of the key locations and measures are provided below the table.

Figure 3: Locations in the LMLCP for which enhancements / interventions are proposed (see Table 1 below)[15].

[15] Note that markers on the map do not necessarily coincide with the lengths of path identified for enhancements / repair works.

Table 1: List of mitigation measures that are recommended for delivery in the Little Marlow Lakes Country Park (LMLCP), describing their nature, likely impact and priority (as considered by AECOM).

Location Number[16]	Description	Proposed Measure	Initial Ballpark Cost Estimate[17] (capital, maintenance and replacement costs as appropriate[18])	Likely Impact	Priority (low, medium, high)[19]
1	One of the main entrance points to the LMLCP, currently only with a standard 'Public Footpath' sign.	To increase visibility, it is recommended that a more visible signpost marking the LMLCP is installed here to augment the existing signage. Furthermore, a DDA compliant gate should be installed here. It is noted that signposts are lacking across the entire LMLCP. Therefore, further signposts could be provided at the other main access points to the country park, such as the A404 along Marlow and the Thames Coast Path. While a total of four signposts are costed here, the number and siting of signage posts should be developed further in a comprehensive signage plan.	Capital Cost £200 based on four signposts to be delivered across the LMLCP; approx. £50 per signpost £500 for one DDA compliant metal gate Replacement Timeline Signposts and metal gate to be replaced every 10 years Total In-Perpetuity Cost (over 80 years) including capital and replacement costs £200 (four signposts) + £500 (one metal gate) + £4,900 (in-perpetuity replacement costs) =	Attract more visitors to the country park.	Medium (optional deliverable)

[16] The locations are shown in Figure 3.
[17] Approximate pricings have been obtained from the Estimating Price Guide for Path Projects (2020). Available at : https://www.pathsforall.org.uk/mediaLibrary/other/english/estimating-price-guide-for-path-projects_paths-for-all_-rev1-dec-2019-2.pdf [Accessed on the 31/07/2020]. Refined costs will be required as the projects get developed and should involve experienced cost consultants and quantity surveyors
[18] It is to be noted that the mitigation measures will have to be secured 'in perpetuity' (over at least 80 years) and an indicative maintenance timeline for relevant interventions is therefore provided in brackets.
[19] Please see a further explanation of which interventions should be delivered to avoid adverse effects on the site integrity of the Burnham Beeches SAC in paragraph 4.18.

Location Number[16]	Description	Proposed Measure	Initial Ballpark Cost Estimate[17] (capital, maintenance and replacement costs as appropriate[18])	Likely Impact	Priority (low, medium, high)[19]
			£5,600		
2	**Outer footpath running parallel to the Spade Oak Perimeter Path and leading around the northern edge of the Spade Oak Nature Reserve**	**This section of the footpath is extremely muddy (see Figure 4) and comprises an old, slippery wooden footbridge. Both the path surface and the footbridge should be renewed.**  Figure 4	**<u>Capital Cost</u> £5,000 for a 200m section of 'Half Tray with Geotextile and Georigid' standard footpath; approx. £25 per m^2 of path £740 for V drainage ditches along a 200m section of footpath; approx. £3.70 per linear metre for V drainage ditches £2,500 for a 5m long wooden footbridge; approx. £500 per m^2 of bridge (bridge costs are difficult to price due to a wide range in design, materials and complexity) <u>Maintenance Cost</u> £60 for annual vegetation strimming along 200m of path;**	**Increase footfall in this section of the LMLCP. No visitors were encountered here during the site visit, and this may partly be due to the condition of the path.**	**High ('must' deliverable)**

Location Number[16]	Description	Proposed Measure	Initial Ballpark Cost Estimate[17] (capital, maintenance and replacement costs as appropriate[18])	Likely Impact	Priority (low, medium, high)[19]
			approx. £0.30 per m^2 £30 for annual litter picking along 200m of path; approx. £0.15 per m^2 £2,400 for 10-yearly path repair works along 200m of path; £12 per m^2 <u>Total In-Perpetuity Cost (over 80 years) including capital and maintenance costs</u> £5000 (path works) + £740 (V drainage) + £2,500 (wooden footbridge) + £4,800 (in-perpetuity vegetation strimming) + £2,400 (in-perpetuity litter picking) + £16,800 (in-perpetuity path repair works) = £32,240		
3	Existing footpath along scrubland and field margins to the northern outer edge of the Spade Oak	Buckinghamshire Council's suggestion of constructing a cycleway here that runs along the field outside the northern edge of the lake from Coldmoorholme Lane (where a new level access entrance is required) to Muschallik Road is considered to be a highly suitable mitigation measure. This is already a section of the LMLCP	<u>Capital Cost</u> £36,740 for a 1,100m section of bound gravel cycle path; approx.	This measure would increase the attractiveness of the LMLCP to cyclists and would align the SPD with Natural England's	High ('must' deliverable)

Location Number[16]	Description	Proposed Measure	Initial Ballpark Cost Estimate[17] (capital, maintenance and replacement costs as appropriate[18])	Likely Impact	Priority (low, medium, high)[19]
	Nature Reserve	**that is very appealing to walkers (see Figure 5).**	**£33.40 per m² of bound gravel path** **<u>Maintenance Cost</u>** **£330 for annual vegetation strimming along 1,100m of path; approx. £0.30 per m²** **£165 for annual litter picking along 1,100m of path; approx. £0.15 per m²** **£13,200 for 10-yearly path repair works along 200m of path; £12 per m²** **<u>Other Cost</u>** **£6,650 surveyor and legal fees[20]** **£5,000 one-off fee to landowner** **<u>Total In-Perpetuity Cost (over 80 years) including capital, maintenance and</u>**	**recommendation to make the park more accessible to sustainable travel modes.**	

[20] Surveyor and legal fees include a 33% flexibility bias.

Location Number[16]	Description	Proposed Measure	Initial Ballpark Cost Estimate[17] (capital, maintenance and replacement costs as appropriate[18])	Likely Impact	Priority (low, medium, high)[19]
			other costs **£36,740 (1,100m of bound gravel cycle path) + £26,400 (in-perpetuity vegetation strimming) + £13,200 (in-perpetuity litter picking) + £92,400 (in-perpetuity path repair works) + £11,650 (other cost) = £180,390**		
4	**Junction where the Spade Oak Perimeter Path meets The Moor (intersection of footpath with a tarmacked road)**	**This is currently the only dog waste bin in the entire site (see Figure 6). It is recommended that at least 4 dog waste bins are installed near the main access points. These should be placed up to 100m into the site away from car parks or foot access points, because dogs typically defecate after they have been walked for some distance.**	**Capital Cost** **£400 based on the provision of four dog waste bins; approx. £100 per bin** **Replacement Timeline** **Dog waste bins to be replaced every 10 years** **Annual Maintenance Cost** **£800 for annual servicing (regular**	**Reduce littering with dog waste bags (which was observed particularly in the western section of the LMLCP) and make the site more appealing for other user groups[21].**	**High ('must' deliverable)**

[21] Footprint Ecology undertook a series of visitor surveys in Suitable Alternative Natural Greenspaces (SANGs) designed to reduce recreational pressure in the Thames Basin Heaths SPA. Visitors were asked about changes that would increase their visit frequency to the SANGs and 'provision of dog waste bins' was one of the key responses given. Fearnley H. & Floyd L. 2014. Results of on-site visitor survey work at Diamond Ridge Woods SANG. 45pp.

Location Number[16]	Description	Proposed Measure	Initial Ballpark Cost Estimate[17] (capital, maintenance and replacement costs as appropriate[18])	Likely Impact	Priority (low, medium, high)[19]
			emptying, repairs, etc.) of four dog waste bins; at £200 annual maintenance cost per bin **<u>Total In-Perpetuity Cost (over 80 years) including capital and annual maintenance costs</u>** **£400 (cost for provision of four dog waste bins) + £2,800 (10-yearly replacement) + £64,000 (in-perpetuity maintenance) = £67,200**		
5	Railway crossing of The Moor adjacent to the Little Marlow Sewage Treatment Works	The footpath gate to the south of the railway tracks is damaged and could be replaced.	<u>Capital Cost</u> £500 (for a DDA compliant metal gate) <u>Replacement Timeline</u> Gate to be replaced every 10 years <u>Other Cost</u> £3,990 surveyor and legal fees (Network Rail -	A new gate would make this section of the site more appealing. It is also potentially a safety issue which will need addressing.	Low (optional deliverable)

Location Number[16]	Description	Proposed Measure	Initial Ballpark Cost Estimate[17] (capital, maintenance and replacement costs as appropriate[18])	Likely Impact	Priority (low, medium, high)[19]
			landowner)[22] Total In-Perpetuity Cost (over 80 years) including capital, replacement and other costs £500 (one metal gate) + £3,500 (in-perpetuity replacement) + £3,990 (other cost) = £7,990		
6	Southern section of the proposed LMLCP comprising a section of the Thames Path; a long-distance footpath with high footfall	The ground below three of the gates is highly compacted and waterlogged, and people were observed to climb the fence to avoid puddles. Addressing local drainage and ground incline is recommended here. Furthermore, all three metal field gates need replacing to be Disability Discrimination Act (DDA) compliant.	Capital Cost £321 for 4m[23] of French drains to be installed at three gates; approx. £26.75 per linear metre of drain £2,632.20 for 42.8m^2 of ground repair works[24] (e.g. releveling and adjusting incline) at three gates; approx. £20.50 per m^2 of repairs £1,500 for three metal field gates; approx. £500 per	This measure would make navigation easier and discourage visitors from climbing over fences (with associated risks of injury).	Medium (optional deliverable)

[22] Surveyor and legal fees include a 33% flexibility bias.
[23] The area identified for drainage requirement was based on a site visit and subsequent measurement of wet ground on satellite imagery.
[24] The area identified for ground repair works was based on a site visit and subsequent measurement of wet ground on satellite imagery.

Location Number[16]	Description	Proposed Measure	Initial Ballpark Cost Estimate[17] (capital, maintenance and replacement costs as appropriate[18])	Likely Impact	Priority (low, medium, high)[19]
			DDA compliant gate <u>Replacement Timeline</u> Metal field gates to be replaced every 10 years <u>Other Cost</u> £2,660 surveyor and legal fees (Randall – landowner)[25] <u>Total In-Perpetuity Cost (over 80 years) including capital and replacement costs</u> £321 (12m of French drains) + £2,632.20 (ground repairs) + £1,500 (three metal field gates) + £10,500 (10-yearly replacement of gates) + £2,660 (other cost) = £17,613.20		
7	**Footpath leading past the Crowne Plaza Marlow and connecting the**	**This section of path is very narrow, overgrown with vegetation, muddy (see Figure 7) and has a littering issue. BC's proposal of constructing a new footpath here is considered a key measure for the park. It is to be noted that this will**	**<u>Capital Cost</u> £25,850 for a section of 1,034m 'Half Tray with**	**An enhanced footpath in this area would increase the overall accessibility of the LMLCP from the Thames**	**High ('must' deliverable)**

[25] Surveyor and legal fees include a 33% flexibility bias.

Location Number[16]	Description	Proposed Measure	Initial Ballpark Cost Estimate[17] (capital, maintenance and replacement costs as appropriate[18])	Likely Impact	Priority (low, medium, high)[19]
	Thames Path with the area around Westhorpe House; key area for improvement as the path enables a circular trail around the LMLCP	**require a new Permissive Path Agreement with the landowner(s).**	**Geotextile and Georigid' footpath to be provided; approx. £25 per m^2 of footpath** **<u>Maintenance Cost</u>** **£310.20 for annual vegetation strimming along 1,034m of path; approx. £0.30 per m^2** **£155.10 for annual litter picking along 1,034m of path; approx. £0.15 per m^2** **£12,408 for 10-yearly path repair works along 1,034m of path; £12 per m^2** **<u>Other Cost</u>** **£3,990 surveyor and legal fees[26]** **£4,000 one-off payment to landowner** **<u>Total In-Perpetuity Cost</u>**	**Path; the attractiveness of the park would be greatly increased.**	

[26] Surveyor and legal fees include a 33% flexibility bias.

Location Number[16]	Description	Proposed Measure	Initial Ballpark Cost Estimate[17] (capital, maintenance and replacement costs as appropriate[18])	Likely Impact	Priority (low, medium, high)[19]
			(over 80 years) including capital, maintenance and other costs **£25,850 (footpath provision) + £24,816 (in-perpetuity vegetation strimming) + £12,408 (in-perpetuity litter picking) + 86,856 (in-perpetuity path repair works) + £7,990 (other cost) = £157,920**		
8	Intersection of various footpaths to the north of Crowne Plaza Marlow; near residential area and the A404	This location offers an opportunity for improving signage, as it is easy to get lost here (for example heading towards the A404 or private land belonging to the angling club); a new waymarker could signpost the LMLCP circular trail.	Capital Cost £215 for one timber post with finger blades Replacement Timeline Timber post to be replaced every 10 years In-Perpetuity Cost (over 80 years) of capital and replacement costs £215 (timber post with finger blades) + 1,505 (in-perpetuity replacement) = £1,720	Better signposting will make navigation easier, making the park more appealing to visitors and likely increasing footfall.	Medium (optional deliverable)

Location Number[16]	Description	Proposed Measure	Initial Ballpark Cost Estimate[17] (capital, maintenance and replacement costs as appropriate[18])	Likely Impact	Priority (low, medium, high)[19]
9	Current footpath / cycle path to the north of the western lakes and Westhorpe House	BC's proposal to extend / enhance the cycleway here is considered to be an effective intervention, as there currently is only a very short well surfaced (compacted gravel) cycle path section to the north of Westhorpe House. The surfacing could be improved along the entire section of this path. It is to be noted that this will require a new Permissive Path Agreement with the landowner(s).	<u>Capital Cost</u> £17,702 for a section of 530m bound gravel cycle path; approx. £33.40 per m^2 of bound gravel path <u>Maintenance Cost</u> £159 for annual vegetation strimming along 530m of path; approx. £0.30 per m^2 £79.50 for annual litter picking along 530m of path; approx. £0.15 per m^2 £6,360 for 10-yearly path repair works along 530m of path; £12 per m^2 <u>Other Cost</u> £3,990 surveyor and legal fees (landowner to be confirmed)[27] £4,000 one-off payment	This measure would increase the attractiveness of the LMLCP to cyclists and would align the SPD with Natural England's recommendation to make the park more accessible to sustainable travel modes.	High ('must' deliverable)

[27] Surveyor and legal fees include a 33% flexibility bias.

Location Number[16]	Description	Proposed Measure	Initial Ballpark Cost Estimate[17] (capital, maintenance and replacement costs as appropriate[18])	Likely Impact	Priority (low, medium, high)[19]
			to landowner **<u>Total In-Perpetuity Cost (over 80 years) including capital, maintenance and other costs</u>** **£17,702 (530m of DBM cycle path) + 12,720 (in-perpetuity vegetation strimming) + 6,360 (in-perpetuity litter picking) + 44,520 (in-perpetuity path repair works) + £7,990 (other cost) = £89,292**		
10	Viewpoint over the Spade Oak Nature Reserve adjacent to The Moor and starting point to the Spade Oak Perimeter Path; key point in the LMLCP overlooking The Spit (a roosting site for waders and wildfowl)	The information board at the viewpoint could be updated with more detailed information on the species present and the ecological importance of decommissioned quarries. A wide range of bird species were observed during the site visit, including red kite, common buzzard, swift, house martin, sand martin, common tern and lapwing, highlighting that the reserve is likely to be appealing to laymen as well as wildlife enthusiasts. Also, a bench and / or picnic tables here would offer visitors the opportunity for a rest, as there is currently no seating anywhere in the LMLCP (see Figure 8).	<u>Capital Cost</u> £825 for one timber bench £2,700 for one information board <u>Replacement Timeline</u> Timber bench and information board to be replaced every 10 years <u>Total In-Perpetuity Cost (over 80 years) including capital and replacement</u>	Installation of these features would enhance the attractiveness of the viewpoint and may increase visitor footfall.	Medium (optional deliverable)

Location Number[16]	Description	Proposed Measure	Initial Ballpark Cost Estimate[17] (capital, maintenance and replacement costs as appropriate[18])	Likely Impact	Priority (low, medium, high)[19]
			costs £825 (for one timber bench) + £2,700 (for one information board) + £24,675 (in-perpetuity replacement) = £28,200		
11	**South-western section of the Spade Oak Perimeter Path**	**Several locations (currently used mainly by anglers) provide expansive views over the lake and there is the opportunity to enhance these with benches. Furthermore, there are several common tern (species of amber conservation status in the UK) nest floats and an information board on this conservation project may be attractive (see Figure 9).**	**Capital Cost** **£825 for one timber bench** **£2,700 for one information board** **Replacement Timeline** **Timber bench and information board to be replaced every 10 years** **Total In-Perpetuity Costs (over 80 years) including capital and replacement costs** **£825 (two timber benches) + £2,700 (two information boards) + 24,675 (in-perpetuity replacement costs) =**	**The installation of seating opportunities and / or an information board would make the south-western section of the Spade Oak Perimeter Path more appealing and likely increase footfall; it makes completing a circular trail more attractive.**	**High ('must' deliverable)**

Location Number[16]	Description	Proposed Measure	Initial Ballpark Cost Estimate[17] (capital, maintenance and replacement costs as appropriate[18])	Likely Impact	Priority (low, medium, high)[19]
			£28,200		
12	Southern section of the Spade Oak Perimeter Path, eventually leading northwards back to the Spade Oak Public House	The path here is very muddy in places and would benefit from resurfacing. Similar to location 11, there are several locations, currently used by anglers, where benches would provide an appealing view over the nature reserve. It is acknowledged that the northward section of this footpath has already been improved, but still requires seating. The section of path still needing improvement (i.e. the 468m), lies to the south of Spade Oak.	<u>Capital Cost</u> £11,700 based on a 468m section of 'Half Tray with Geotextile and Georigid' footpath to be provided; approx. £25 per m^2 of footpath £1,650 for two timber benches; at £825 per bench <u>Maintenance Cost</u> £140.40 for annual vegetation strimming along 468m of path; approx. £0.30 per m^2 £70.20 for annual litter picking along 468m of path; approx. £0.15 per m^2 £5,616 for 10-yearly path repair works along 468m of path; £12 per m^2 <u>Replacement Timeline</u> Timber benches to be	Resurfacing the path and providing seating opportunities would make this section of the Spade Oak Perimeter Path more appealing and the circular trail more attractive.	Medium (optional deliverable)

Location Number[16]	Description	Proposed Measure	Initial Ballpark Cost Estimate[17] (capital, maintenance and replacement costs as appropriate[18])	Likely Impact	Priority (low, medium, high)[19]
			replaced every 10 years Total In-Perpetuity Cost (over 80 years) including capital and maintenance costs £11,700 (468m of footpath) + £1,650 (one timber bench) + £11,232 (in-perpetuity vegetation strimming) + £5,616 (in-perpetuity litter picking) + £11,550 (in-perpetuity replacement) + 39,312 (in-perpetuity path repair works) = £81,060		
13	**Through-cut between the Spade Oak Perimeter Path and the entrance at the Spade Oak Public House**	**The existing 'wildlife area' and 'danger – quarry water' signage look very worn / have fallen off. These could be replaced and a waymarker could signpost the Spade Oak Perimeter Path and the wider LMLCP circular trail.**	**Capital Cost** **£215 for one timber post with finger blades** **£2,700 for one information board** **Replacement Timeline** **Timber post and information board to be replaced every 10 years** **Total In-Perpetuity Cost**	**The provision of new signage and wayfinding at this location would help orientate visitors and increase the likelihood that a circular trail is completed.**	**High ('must' deliverable)**

Location Number[16]	Description	Proposed Measure	Initial Ballpark Cost Estimate[17] (capital, maintenance and replacement costs as appropriate[18])	Likely Impact	Priority (low, medium, high)[19]
			(over 80 years) including capital and replacement costs **£215 (for one timber post with finger blades) + £2,700 (for one information board) + £20,405 (in-perpetuity replacement costs) = £23,320**		
14	**Near the Spit**	**BC is considering a new car park near The Spit (specifically along the concrete road or within the old gravel yard) to increase the visitor capacity of the LMLCP and enhance access to the northern section of the site. The Spit forms the tranquil core and is the main roosting site for waterfowl and waders in the LMLCP. The car park would lie within approx. 200-300m of the roost site, which may result in disturbance effects during and post-construction (depending on the construction machinery used[28] and the volume of traffic).** **Other options for additional parking opportunities have also emerged, including expansion of the Athletics Track car park along Westhorpe Farm Lane or a more formalised landscaped version of parking in Carington field.** **During the site visit it was noted that visitors currently use parking on Muschallik**	**Capital Cost** **£12,000 for 60m^2 of car park for approx. 20 parking spaces[29]; approx. £200 per m^2 of car park[30].** **Maintenance Cost** **£18 for annual vegetation strimming around 60m^2 of car park;**	**An increase in the parking capacity is a key predictor of visitor numbers to a site[31] and it is likely that this would enhance the capacity of the LMLCP to absorb more recreational pressure, including from the Hollands Farm development.**	**High ('must' deliverable)**

[28] The Waterbird and Disturbance Mitigation Toolkit provides detailed background on the distances at which different noise levels may lead to the disturbance of waterbirds.
[29] Natural England uses a rule of thumb of one parking space per hectare for SANG (for example in the Thames Basin Heaths SPA area). The LMLCP is not proposed as SANG and has an area of approx. 321ha. It is not deemed appropriate to provide a very large car park in the LMLCP, given that the site is already served by two car parks. Therefore, a medium-sized car park providing for 20 spaces is costed here.
[30] A medium car park (for up to about 20 cars). Excavate to 300mm depth and fill to 150mm with clean hardcore. Surface with minimum 150mm of new hardcore (Type 1) with topping of fines to bind surface. Each parking bay requires 5m x 3m, plus turning space (1.5 x car length).
[31] Weitowitz DC, Panter C, Hoskin R & Liley D. (2019). Parking provision at nature conservation sites and its implications for visitor use. Landscape and Urban Planning 190: 1-10.

Location Number[16]	Description	Proposed Measure	Initial Ballpark Cost Estimate[17] (capital, maintenance and replacement costs as appropriate[18])	Likely Impact	Priority (low, medium, high)[19]
		Road – known as Fisherman's car park – adjacent to the entrance to the Little Marlow Waste Water Treatment Works. Due to the importance of The Spit for wildlife, AECOM advises that as a preferred option the expansion of parking along Muschallik Road is explored instead of a car park on the Spit. **It is noted that there is a car park owned by Little Marlow Parish Council past the Spade Oak Public House car park further down on Coldmoorholme Lane. However, most visitors parking here were observed to access the Thames Path rather than the LMLCP. Furthermore, by extending the parking capacity in a different part of the LMLCP (e.g. on Westhorpe Farm Lane or Muschallik Road), this would enhance the accessibility of the Country Park in other areas.** **The different options for additional parking provision should be scoped out further and consulted upon with Natural England at the earliest opportunity, in order to identify the preferred solution for the outline planning application.**	**approx. £0.30 per m^2** **£9 for annual litter picking around 60m^2 of car park; approx. £0.15 per m^2** **£1,890 for 10-yearly repair works on 60m^2 of car park; £31.50 per m^2** **<u>Total In-Perpetuity Cost (over 80 years) including capital and maintenance costs</u>** **£12,000 (for a medium-sized car park with 20 parking spaces) + £1,440 (in-perpetuity vegetation strimming) + £720 (in-perpetuity litter picking) + £13,230 (in-perpetuity repair works) = £27,390**		
15 (not on map)	Distribution of information leaflets advertising the LMLCP in Hollands	A leaflet[32] advertising the key circular routes through the LMLCP could be produced and distributed in households of the Hollands Farm development. Key information on the routes (e.g. distance, difficulty, access information) could be provided in this brochure. Furthermore, the information leaflet may be used as an educational platform to provide	<u>Capital Cost</u> £124 for two rounds of leaflet distribution in the Hollands Farm	Providing additional advertisement for the LMLCP is likely to increase the recreational footfall within the	Medium (optional deliverable)

[32] A leaflet produced by the Chilterns Conservation Board covers a section of the site and is a useful source for inspiration. Available at: https://www.chilternsaonb.org/uploads/files/Walks_and_Rides/Access_to_the_Countryside/LittleMarlowWaterWalk.pdf [Accessed on the 31/07/2020]

Location Number[16]	Description	Proposed Measure	Initial Ballpark Cost Estimate[17] (capital, maintenance and replacement costs as appropriate[18])	Likely Impact	Priority (low, medium, high)[19]
	Farm	details on the history and wildlife of the Little Marlow Lakes, as well as the Countryside Code.	development; approx. £62 for one round of 500 double-sided A6 leaflets[33] (excl. design of content and distribution)	site. Furthermore, the provision of routes with descriptions is likely to be an additional attraction. Visitors like to be guided on visits, which gives a sense of accomplishment (see success of routes on the ViewRanger application).	
16 (not on map)	**Strategic delivery officer role in Little Marlow Lakes Country Park**	**This measure provides for a part-time delivery officer role with the purpose to administer funds, review project progress and liaise with relevant stakeholders (e.g. Natural England or private landowners). In other projects (e.g. BirdAware Solent), officers are full-time employed, but it is considered that a part-time role would suffice to oversee the LMLCP mitigation package.** **The officer working hours could be adjusted according to the requirements of the role, with most input being required in the initial set-up phase. In line with this, the officer role could be provided permanently in the first 5 years, with another 5 years of the role being spread over the remaining 75 years of the project (reflecting that the role would be limited to maintenance requirements after the initial project set-up phase).**	**Annual Cost** **£45,000 part-time officer role (at 75% time) based on FTE salary of £50,000, and allowance for support costs (e.g. office supplies, IT support, etc.) and outsourcing the role[34]. The role would be provided over a total of 10 years (see column on the left).** **Total In-Perpetuity Cost (over 80 years) of annual costs** **£450,000 (salary for part-**	**The delivery officer role will ensure that developer contributions are utilised appropriately and that mitigation interventions are achieved on time.**	**High ('must' deliverable)**

[33] Guide price for leaflet printing obtained from a web search at: https://www.alocalprinter.co.uk/digital-leaflet [Accessed on the 31/07/2020]
[34] Data provided by Buckinghamshire Council

Location Number[16]	Description	Proposed Measure	Initial Ballpark Cost Estimate[17] (capital, maintenance and replacement costs as appropriate[18])	Likely Impact	Priority (low, medium, high)[19]
			time delivery officer)		
All	Total in-perpetuity costs for all proposed mitigation measures		£1,198,259[35]		

[35] It is to be noted that this figure provides a very crude ballpark figure for the lifetime costings of the mitigation measures identified for LMLCP. The total in-perpetuity cost may differ significantly, for example based on the lengths of foot- and cycle paths enhanced / replaced, and / or the amount of repair works required.

Figure 4: Outer footpath running in parallel to the Spade Oak Perimeter Path (location 2 in table) showing extremely muddy ground.

Figure 5: Section of the LMLCP for which a cycleway is proposed (location 3 in table). The picture shows the appealing scenery with expansive fields to the right and scrubland to the left of the footpath.

Figure 6: The only dog waste bin in the entire LMLCP (location 4 in table). More of these could be situated near the main access points to keep the park free of litter and make it more appealing to visitors.

Figure 7: Footpath leading past the Crowne Plaza, connecting the Thames Path with the area around Westhorpe House (location 7 in table). This view northward shows parts of the muddy track, an old slippery footbridge and overgrowth.

Figure 8: Viewpoint over the Spade Oak Nature Reserve and the Spit, the key spot for wildlife watching (location 10 in table). A more informative information board and benches could be installed here.

Figure 9: View from the southern section of the Spade Oak Perimeter Path over the tern nest floats (location 11 in table). This area would benefit from enhancements such as seating opportunities and an information board.

4.18 Each of the mitigation measures proposed in Table 1 has been given a priority score of 'high', 'medium' and 'low'. These scores are the professional view of AECOM and have been carefully considered in the context of the available evidence base. In order to support a conclusion of 'no adverse effects on the site integrity' of the Burnham Beeches SAC, development proposals would need to deliver **all** 'high' priority measures plus at least a combination of three of the additional 'medium' and 'low' priority measures identified in Table 1. The mitigation package is designed to be flexible (by offering a list of 'low' and 'medium' priority measures to choose from) to provide alternatives in the event that some measures prove to be undeliverable, allow flexibility at the planning application stage and respond to the latest evidence base. AECOM's experienced judgment on mitigation requirements have informed the list, and the priority, and Natural England's professional input should be sought (see below), as early as possible.

4.19 The final mitigation package to be taken forward would also have to be consulted and agreed upon by Natural England. Given that the Hollands Farm Development Brief is a higher-level planning document, a definitive mitigation package would be assembled for the outline planning application. The measures will have to be delivered **prior** to the occupation of the Hollands Farm development.

4.20 Furthermore, as is a legal requirement for HRA mitigation measures for European sites, any interventions will have to be secured 'in perpetuity' (defined typically as 80 years[36]) to ensure their long-term effectiveness. Sufficient funding for this will have to be collected from developers. 'In perpetuity' or maintenance costs involve a range of measures, including annual interventions (e.g. vegetation strimming, grass cutting, litter picking) and periodic (e.g. replacement of dog waste bins, information boards and wayfinders approx. every 10 years). Table 1 provides ballpark in-perpetuity costs for the proposed mitigation measures, accounting for capital, annual maintenance and 10-yearly replacement costs. However, all measures will have to be costed up in more detail for the planning application stage.

Wider Accessibility Measures

4.21 As highlighted in the earlier section on 'Mitigation Contained in the Development Brief', the development framework envisaged for Hollands Farm already provides for connectivity options

[36] See Burnham Beeches Mitigation Strategy, page 4 paragraph 1.1.12.

that would increase the accessibility of the LMLCP by active travel modes. The Hollands Farm Sustainability Appraisal (SA) considered the development's wider connectivity to the town centre, the surrounding countryside and the LMLCP. It is AECOM's view that an improvement to the pedestrian and cyclists links between the site and the Thames Path/LMLCP, such as could be realised through movement framework Options G and O detailed in the SA, could form an important element of the overall mitigation package, particularly in combination with the cycle way and footpath improvements listed in Table 1. These development options would increase the permeability between the development site, the central part of Bourne End and the LMLCP. Furthermore, they would contribute to the wider circular nature of the LMLCP via the Thames Path. This mitigation already embedded in the Development Brief would be a way to address NE's requirement for sustainable access to the LMLCP. The SA movement framework Options G (a pedestrian / cycle route option within the site) and O (a pedestrian / cycle route option outside the site) in the western section of Hollands Farm would direct walkers and cyclists towards the train station, parade of shops and in the direction of the LMLCP (via Claytons Meadow and the Thames Path). Another way of enhancing accessibility would be through an improvement of the bus service between Bourne End station and Marlow Road, to the north of the LMLCP. Such options, or suitable alternatives, should be explored further as part of the overall mitigation for the Hollands Farm site (in addition to the measures identified in Table 1).

5. Conclusion

5.1 Table 1 in this report provides an extensive list of interventions, some of which are high priority 'must' deliverables, that would have to be delivered to significantly enhance the LMLCP's overall visitor capacity and potential footfall from residents of the new nearby Hollands Farm development. It is concluded that the delivery of these measures in combination with a selection of three of medium and low priority interventions would allow for a conclusion of 'no adverse effect on the site integrity' of the Burnham Beeches SAC. These include:

- Enhancing its overall accessibility via sustainable, active travel modes (walking and cycling) by constructing / enhancing existing footpaths and cycle paths within the country park; this is regarded as particularly effective in conjunction with enhanced sustainable travel links between the Hollands Farm development and the LMLCP through the built-up area
- Improving the overall visitor experience by providing better information boards, signage, seating / picnic areas and dog waste bins
- Conceptualising and signposting different circular routes through the LMLCP by providing better path surfacing and signage, as well as publicity
- Improving / increasing parking provision across the LMLCP

5.2 It is clear that there is considerable potential to enhance the recreational appeal of Little Marlow Lakes Country Park and that once this is completed (which would need to be undertaken before the Hollands Farm development was occupied) there is a high likelihood that this will become a preferential natural visitor destination for residents of the development given its relatively close location, accessibility, large scale and openness, and presence of attractive semi-natural features. These have all been shown in other European site areas (such as around the Thames Basin Heaths SPA) to be instrumental in providing attractive destinations that will draw people away from sensitive European sites. As such, delivery of these measures, and their inclusion for reference in an Appendix to the SPD, would (combined with the overarching policy framework of the Local Plan) provide the mechanism to ensure that no adverse effect on the integrity of Burnham Beeches SAC would arise from the delivery and occupation of the Hollands Farm development.

5.3 The mitigation package (**all** high priority measures, plus a combination of 3 of the medium or low priority measures) or a suitable alternative mitigation package agreed with Natural England would have to be in place (i.e. the measures implemented) prior to Hollands Farm occupation, as these are designed to significantly increase the recreational appeal of the park as a very large semi-natural greenspace. As a next step before concluding the HRA process the different options should be investigated further as to their deliverability. It is also advisable that more detailed costings by costings professionals are developed (using the ballpark costs in Table 1 as a guide), in order to calculate the necessary S106 contributions from the developer. The definitive package of mitigation measures will then be agreed upon by Buckinghamshire Council and Natural England and should be refined for the outline planning application stage. As set out in the Burnham Beeches Mitigation Strategy, the mitigation interventions will need to be in place in-perpetuity (defined as 80 years).

5.4 **AECOM concludes that – provided a suitable package of enhancements is delivered in the LMLCP, in consultation with Natural England – there will be no adverse effects of the Hollands Farm SPD on the site integrity of the Burnham Beeches SAC.** This conclusion is further supported by the inherent attractiveness of the LMLCP and its much shorter distance to the Hollands Farm development, compared to the Burnham Beeches SAC. The current SPD already refers to the Habitats Regulations (2017, as amended) and that the developer is to deliver mitigation measures in the LMLCP. However, it is advised that the SPD explicitly include a requirement for the forthcoming outline planning application to provide for a detailed list of the measures to be funded through S106 agreements.