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Pre-Submission Draft Plan (August 2019) Habitats Regulations Assessment

Castle Acre Neighbourhood Plan Group

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Quality information

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1. Introduction

Background to the Project

- 1.1 AECOM has been appointed by Castle Acre Neighbourhood Plan Group to assist in producing a report to inform King's Lynn and West Norfolk Borough Council's Habitats Regulations Assessment (HRA) of the potential effects of Castle Acre Neighbourhood Plan (August 2019) on the Natura 2000 Network and Rams ar sites. The objectives of the assessment are to:
 - Identify any aspects of the Neighbourhood Plan that would cause an adverse effect on the integrity of Natura 2000 sites, otherwise known as European sites (Special Areas of Conservation (SACs), Special Protection Areas (SPAs), protected SPAs (pSPAs) and, as a matter of Government policy, Ramsar sites), either alone or in combination with other plans and projects; and
 - To advise on appropriate policy mechanisms for delivering mitigation where such effects were identified.
- 1.2 The HRA of the Castle Acre Neighbourhood Plan is required to determine if there are any realistic linking pathways present between a European site and the Neighbourhood Plan and where Likely Significant Effects cannot be screened out, an analysis to inform Appropriate Assessment to be undertaken to determine if adverse effects on the integrity of the European sites will occur as a result of the Neighbourhood Plan alone or in combination.

Legislation

1.3 The need for HRA is set out within Article 6 of the EC Habitats Directive 1992, and interpreted into British law by the Conservation of Habitats & Species Regulations 2017 (Box 1). The ultimate aim of the Habitats Directive is to "maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest" (Habitats Directive, Article 2(2)). This aim relates to habitats and species, not the European sites themselves, although the sites have a significant role in delivering favourable conservation status. European sites (also called Natura 2000 sites) can be defined as actual or proposed/candidate Special Areas of Conservation (SAC) or Special Protection Areas (SPA). It is also Government policy for sites designated under the Convention on Wetlands of International Importance (Ramsar sites) to be treated as having equivalent status to Natura 2000 sites.

Box 1: The legislative basis for Appropriate Assessment

Habitats Directive 1992

Article 6 (3) states that:

"Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives."

Conservation of Habitats and Species Regulations 2017 (as amended)

With specific reference to Neighbourhood Plans, Regulation 106(1) states that:

'A qualifying body which submits a proposal for a neighbourhood development plan must provide such information as the competent authority [the Local Planning Authority] may reasonably require for the purposes of the assessment under regulation 105 [which sets out the formal process for determination of 'likely significant effects' and the 'appropriate assessment']...'.

- To assist the Qualifying Body (the Neighbourhood Plan Group) in preparing their plan by recommending (where necessary) any adjustments required to protect European sites, thus making it more likely their plan will be deemed compliant with the Conservation of Habitats and Species Regulations 2017 (as amended); and
- On behalf of the Qualifying Body, to assist the Local Planning Authority to discharge their duty under Regulation 105 (in their role as 'plan-making authority' within the meaning of that regulation) and Regulation 106 (in their role as 'competent authority').
- 1.5 As 'competent authority', the legal responsibility for ensuring that a decision of 'likely significant effects' is made, for ensuring an 'appropriate assessment' (where required) is undertaken, and for ensuring Natural England are consulted, falls on the local planning authority. How ever, they are entitled to request from the Qualifying Body the necessary information on which to base their judgment and that is a key purpose of this report.
- 1.6 The Habitats Regulations applies the precautionary principle to Natura 2000 sites (SAC and SPA). As a matter of UK Government policy, Ramsar sites are given equivalent status. For the purposes of this assessment candidate SACs (cSACs), proposed SPAs (pSPAs) and proposed Ramsar (pRamsar) sites are all treated as fully designated sites. In this report we use the term "European designated sites" to refer collectively to the sites listed in this paragraph.
- 1.7 Plans and projects can only be permitted having ascertained that there will be no adverse effect on the integrity of the site(s) in question. This contrasts with the SEA Directive which does not prescribe how plan or programme proponents should respond to the findings of an environmental assessment; merely that the assessment findings (as documented in the 'environmental report') should be 'taken into account' during preparation of the plan or programme. In the case of the Habitats Directive, plans and projects may still be permitted if there are no alternatives to them and there are Imperative Reasons of Overriding Public Interest (IROPI) as to why they should go ahead. In such cases, compensation would be necessary to ensure the overall integrity of the site network.
- 1.8 In 2018, the 'People Over Wind' European Court of Justice (ECJ) ruling¹ determined that 'mitigation' (i.e. measures that are specifically introduced to avoid or reduce the harmful effects of a plan or project on European sites) should not be taken into account when forming a view on likely significant effects. Mitigation should instead only be considered at the appropriate assessment stage. Appropriate assessment is not a technical term: it simply means 'an assessment that is appropriate' for the plan or project in question. As such, the law purposely does not prescribe what it should consist of or how it should be presented; these are decisions to be made on a case by case basis by the competent authority. An amendment w as made to the Neighbourhood Planning Regulations in late 2018 which permitted Neighbourhood Plans to be made if they required appropriate assessment.
- 1.9 Over the years the phrase 'Habitats Regulations Assessment' has come into wide currency to describe the overall process set out in the Conservation of Habitats and Species Regulations from screening through to Imperative Reasons of Overriding Public Interest (IROPI). This has arisen in order to distinguish the process from the individual stage described in the law as an 'Appropriate Assessment'. Throughout this report we use the term Habitats Regulations Assessment for the overall process.

Report Layout

1.10 Chapter 2 of this report explains the process by which the HRA has been carried out. Chapter 3 explores the relevant pathways of impact. Chapter 4 summarises the Test of Likely Significant Effects of the policies and site allocations of the Plan considered 'alone' and 'in-combination. (The Test of Likely Significant Effects itself is undertaken in Appendix C). Chapter 5 contains the Appropriate Assessment for any linking impact pathways that could not be screened out from potentially resulting in a Likely Significant Effect. Chapter 6 contains the conclusion and a summary of recommendations.

¹ Case C-323/17

2. Methodology

Introduction

2.1 This section sets out the approach and methodology for undertaking the Habitats Regulations Assessment (HRA). HRA itself operates independently from the Planning Policy system, being a legal requirement of a discrete Statutory Instrument. Therefore, there is no direct relationship to the National Planning Policy Framework (NPPF) and the 'Tests of Soundness'.

A Proportionate Assessment

- 2.2 Project-related HRA often requires bespoke survey work and novel data generation in order to accurately determine the significance of effects. In other words, to look beyond the risk of an effect to a justified prediction of the actual likely effect and to the development of avoidance or mitigation measures.
- 2.3 How ever, the draft MHCLG guidance² (described in greater detail later in this chapter) makes it clear that when implementing HRA of land-use plans, the Appropriate Assessment (AA) should be undertaken at a level of detail that is appropriate and proportional to the level of detail provided within the plan itself:
- 2.4 "The comprehensiveness of the [Appropriate] assessment work undertaken should be proportionate to the geographical scope of the option and the nature and extent of any effects identified. An AA need not be done in any more detail, or using more resources, than is useful for its purpose. It would be inappropriate and impracticable to assess the effects [of a strategic land use plan] in the degree of detail that would normally be required for the Environmental Impact Assessment (EIA) of a project."
- 2.5 More recently, the Court of Appeal³ ruled that providing the Council (competent authority) was duly satisfied that proposed mitigation could be "achieved in practice" then this would suffice to meet the requirements of the Habitat Regulations. This ruling has since been applied to a planning permission (rather than a Plan document)⁴. In this case the High Court ruled that for "a multistage process, so long as there is sufficient information at any particular stage to enable the authority to be satisfied that the proposed mitigation can be achieved in practice it is not necessary for all matters concerning mitigation to be fully resolved before a decision maker is able to conclude that a development will satisfy the requirements of reg 61 of the Habitats Regulations".
- 2.6 In other words, there is a tacit acceptance that AA can be tiered and that all impacts are not necessarily appropriate for consideration to the same degree of detail at all tiers as illustrated in **Box 2**.

⁴ High Court case of R (Devon Wildlife Trust) v Teignbridge District Council, 28 July 2015

² MHCLG (2006) Planning for the Protection of European Sites, Consultation Paper

³ No Adastral New Town Ltd (NANT) v Suffolk Coastal District Council Court of Appeal, 17th February 2015

Box 2: Tiering in HRA of Land Use Plans



- 2.7 For a plan the level of detail concerning the developments that will be delivered is usually insufficient to make a highly detailed assessment of significance of effects. For example, precise and full determination of the impacts and significant effects of a new settlement will require extensive details concerning the design of the new housing sites, including layout of greenspace and type of development to be delivered in particular locations, yet these data will not be decided until subsequent stages.
- 2.8 The most robust and defensible approach to the absence of fine grain detail at this level is to make use of the precautionary principle. In other words, the plan is never given the benefit of the doubt (within the limits of reasonableness); it must be assumed that a policy/measure is likely to have an impact leading to a significant adverse effect upon an internationally designated site unless it can be clearly established otherwise.

The Process of HRA

- 2.9 The HRA is being carried out in the continuing absence of formal central Government guidance. The former DCLG (now MHCLG) released a consultation paper on AA of Plans in 2006⁵. As yet, no further formal guidance has emerged from MHCLG on the assessment of plans. How ever, Natural England has produced its ow n informal internal guidance and central government have released general guidance on appropriate assessment⁶.
- 2.10 **Box 3** outlines the stages of HRA according to the draft MHCLG guidance (which, as government guidance applicable to English authorities is considered to take precedence over other sources of guidance). The stages are essentially iterative, being revisited as necessary in response to more detailed information, recommendations and any relevant changes to the plan until no likely significant effects remain.

⁵ MHCLG (2006) Planning for the Protection of European Sites, Consultation Paper ⁶ https://www.gov.uk/guidance/appropriate-assessment

Box 3: Four-Stage Approach to Habitats Regulations Assessment



2.11 The following process has been adopted for carrying out the subsequent stages of the HRA.

Task One: Test of Likely Significant Effect

- 2.12 The first stage of any Habitats Regulations Assessment is a test of Likely Significant Effect essentially a high level assessment to decide whether the full subsequent stage known as Appropriate Assessment is required. The essential question is:
- 2.13 "Is the Plan, either alone or in combination with other relevant projects and plans, likely to result in a significant effect upon European sites?"
- 2.14 In evaluating significance, AECOM have relied on professional judgment and experience of working with the other local authorities on similar issues. The level of detail concerning developments that will be permitted under land use plans is rarely sufficient to make a detailed quantification of effects. Therefore, a precautionary approach has been taken (in the absence of more precise data) assuming as the default position that if a likely significant effect (LSE) cannot be confidently ruled out, then the assessment must be taken the next level of assessment Task Tw o: Appropriate Assessment. This is in line with the April 2018 court ruling relating to 'People Over Wind' where mitigation and avoidance measures are to be included at the next stage of assessment.

Task Two: Appropriate Assessment

- 2.15 European Site(s) which have been 'screened in' during the previous Task have a detailed assessment undertaken on the effect of the policies on the European site(s) site integrity. Avoidance and mitigation measures to avoid adverse significant effects are taken into account or recommended where necessary.
- 2.16 As established by case law, 'appropriate assessment' is not a technical term; it simply means whatever further assessment is necessary to confirm whether there would be adverse effects on the integrity of any European sites that have not been dismissed at screening. Since it is not a technical term it has no firmly established methodology except that it essentially involves repeating the analysis for the likely significant effects stage, but to a greater level of detail on a smaller number of policies and sites, this time with a view to determining if there would be adverse effects on integrity.
- 2.17 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 takes any policies or allocations 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)).

The Scope

- 2.18 There is no guidance that dictates the physical scope of an HRA of a plan. Therefore, in considering the physical scope of the assessment we were guided primarily by the identified impact pathways rather than by arbitrary "zones", i.e. a source-pathway-receptor approach. Current guidance suggests that the following European sites be included in the scope of assessment:
 - All sites within the Neighbourhood Plan area boundary; and
 - Other sites show n to be linked to development within the Neighbourhood Plan boundary through a know n "pathw ay" (discussed below).
- 2.19 Briefly defined, pathways are routes by which a change in activity within the plan area can lead to an effect upon a European site. In terms of the second category of European site listed above, MHCLG guidance states that the AA should be "proportionate to the geographical scope of the [plan policy]" and that "an AA need not be done in any more detail, or using more resources, than is useful for its purpose" (MHCLG, 2006, p.6).
- 2.20 Locations of European designated sites are illustrated in **Appendix A**, **Figure A1**, and full details of all European designated sites discussed in this document can be found in **Appendix B**. specifying their qualifying features, conservation objectives and threats to integrity. Table 1 below lists all those European designated sites included in this HRA.

Note that the inclusion of a European sites or pathway below does not indicate that an effect is expected but rather that these are pathways that will be investigated.

European Designated Site	Location	Reason for Inclusion (pressures/ threats ⁷ associated with the European site that could link to the Plan.)	Other site vulnerabilities
Norfolk Valley Fens SAC	At its closest 4.7 km NW of Neighbourhood Area	 Water pollution Water abstraction Air pollution 	 Inappropriate water levels Inappropriate scrub control Hydrological changes Inappropriate cutting/mowing Undergrazing Overgrazing Invasive species Changesin land management Changesin species distribution
Breckland SPA	At its closest 5.7 km SW of Neighbourhood Area	 Water pollution Air pollution Public access/disturbance 	 Lack of ground disturbance Undergrazing Forestry and woodland management Changesin species distribution Stone curlew monitoring and intervention

Table 1: Physical Scope of the HRA

⁷ As identified in the Site Improvement Plans or RAMS for European sites.

			 Planning permission: general Monitoring Climate change Inappropriate management practices Inappropriate scrub control Habitat fragmentation Inappropriate weed control Inappropriate pest control Inappropriate control Inappropriate control
River Wensum SAC	At its closest 8.0 km NE of Neighbourhood Area	Water pollution Water abstraction	 Physical modification Inappropriate weird dams and other structures Siltation Invasive species

The 'in Combination' Scope

- 2.21 It is a requirement of the Regulations that the impacts and effects of any land use plan being assessed are not considered in isolation but in combination with other plans and projects that may also be affecting the European designated site(s) in question.
- 2.22 When undertaking this part of the assessment it is essential to bear in mind the principal intention behind the legislation i.e. to ensure that those projects or plans which in themselves have minor impacts are not simply dismissed on that basis but are evaluated for any cumulative contribution they may make to an overall significant effect. In practice, in combination assessment is therefore of greatest relevance when the plan would otherwise be screened out because its individual contribution is inconsequential. The overall approach is to exclude the risk of there being unassessed likely significant effects in accordance with the precautionary principle. This was first established in the seminal Waddenzee⁸ case.
- 2.23 For the purposes of this assessment, we have determined that, due to the nature of the identified impacts, the key other plans and projects with potential for in combination likely significant effects are those schemes that have the following impact pathways: Disturbance (including urbanisation and recreational pressure), changes in hydraulic conditions and loss of functionally linked land. The following plans have been assessed for their in-combination impact to interact with the Neighbourhood Plan:
 - King's Lynn and West Norfolk Local Development Framework Core Strategy (Adopted July 2011)
 - King's Lynn and West Norfolk Site Allocations and Development Management Policies Plan (Adopted September 2016)
 - Breckland Local Plan Reg 19 Pre-Submission Publication (to 2036).
 - North Norfolk Local Plan 2016 2036 (First Draft June 2019)
 - Broadland Local Joint Core Strategy DPD (Broadland, Norw ich and South Norfolk) (Adopted 2011, amendments adopted January 2014).
 - Anglian Water Revised Draft Water Resources Management Plan 2019
 - Norfolk's Transport Asset Management Plan 2019-20 2023-24
 - King's Lynne and West Norfolk Natura 2000 Sites Monitoring and Mitigation Strategy (September 2015)

⁸ Waddenzee case (Case C-127/02, [2004] ECR-I 7405)

2.24 It should be noted that, while the broad potential impacts of these other projects and plans will be considered, we do not propose carrying out full HRA on each of these plans – we will how ever draw upon existing HRA that have been carried out for surrounding regions and plans.

3. Pathways of Impact

- 3.1 The following pathways of impact are considered relevant to the HRA of the Plan:
 - Recreational pressure
 - Water Quality and Water Resources
 - Air pollution (Atmospheric Nitrogen Deposition)

Recreational Pressure

- 3.2 Recreational use of a European site has the potential to:
 - Cause disturbance to sensitive species, particularly ground-nesting birds and (where relevant) wintering wildfow I.
 - Cause damage through erosion and fragmentation;
 - Cause eutrophication as a result of dog fouling; and
 - Prevent appropriate management or exacerbate existing management difficulties;
- 3.3 Different types of European sites are subject to different types of recreational pressures and have different vulnerabilities. Studies across a range of species have shown that the effects from recreation can be complex.
- 3.4 It should be emphasised that recreational use is not inevitably a problem. Many European sites also contain nature reserves managed for conservation and public appreciation of nature.
- 3.5 HRAs of Local Plans tend to focus on recreational sources of disturbance as a result of new residents⁹.
- 3.6 This section distinguishes between potential impacts on breeding birds (between March and August) and non-breeding birds (between August to May).

Breeding birds (February to August)

- 3.7 Breckland Forest SSSI (Unit 4) part of the national SSSI designations that make up the Breckland SPA European designation is within 10 km of the Neighbourhood Area. The Breckland Forest lies betw een Bury St. Edmunds in Suffolk and Sw affham in Norfolk. The northern tip is approximately 5.7km south of Castle Acre Parish. The forest is part of Thetford Forest Park, the largest commercial forest in low land England. Its climate is described as semi-continental, being the driest region of the British Isles and subject to great extremes of temperature. The soils are complex, but typically sandy free-draining mixes of chalk, sand, silt, clay and flints.
- 3.8 The area of the SPA within 10km of the Neighbourhood area is clear fell and young plantation areas which provide suitable breeding habitat for woodlark (*Lullula arb orea*) and nightjar (*Caprimulgus eurpaeus*), which occur within the SPA at internationally important levels and are principal reasons for the SPA designation.
- 3.9 A study of nightjars by Murison (2002) noted that nightjar breeding success differed betw een heavily visited sites and those with little public access. Breeding success and nest density was low er on sites with higher levels of use. The proximity of paths to the nest also correlated strongly with nest failure, up to 225m from the path edge. Murison also noted that the study appeared to show a strong link betw een increased site disturbance, higher predator numbers such as corvids on disturbed sites, and subsequent high predation rates of nightjar nests.

⁹ The RTPI report 'Planning for an Ageing Population' (2004) which states that 'From being a marginalised group in society, the elderly are now a force to be reckoned with and increasingly seen as a market to be wooed by the leisure and tourist industries. There are more of them and generally they have more time and more money.' It also states that 'Participation in most physical activities shows a significant decline after the age of 50. The exceptions to this are walking, golf, bowls and sailing, where participation rates hold up well into the 70s'.

- 3.10 Woodlark also appears to be sensitive to disturbance. A study by Mallord (2005)¹⁰, referenced by Liley (2005)¹¹, on sixteen heathland sites in southern England found that density of woodlarks appeared to be correlated to disturbance levels, with low er densities where disturbance levels were higher. Overall Mallord estimated that if there was no disturbance on any of the sites, 34% more woodlark chicks would be raised (Liley, 2005).
- 3.11 Mallord et al (2007) assessed the impacts of recreational disturbance on woodlark at a population scale. They found that across all sites studied, woodlark density (per hectare of suitable habitat) was low er in sites with higher levels of disturbance. Within sites with recreational access, the probability of suitable habitat being colonized was low er in those areas with greater disturbance; this was reduced to below 50% at around eight disturbance events per hour.
- 3.12 Dogs have been recorded preying on ground nesting birds and studies have show n nightjars to have been flushed from their nest by dogs. Studies have also show n birds to be warier of dogs and people with dogs than people alone, with birds flushing (flying aw ay) more readily, more frequently and at greater distances and staying longer off the nest when disturbed (Langston et al., 2007).
- 3.13 In addition, the SPA is designated for stone curlew, although areas suitable for this species are not within 10 km of the Neighbhourhood area. Human presence at up to 1,395m away (Taylor 2007) has been shown to result in some disturbance effects on stone curlew, which may include the bird flying from its nest, leaving eggs exposed.
- 3.14 Stone curlew, nightjar and w oodlark are therefore all known to be vulnerable to disturbance from recreational activity, particularly walking and the presence of dogs. There is recreational access available across Breckland SPA through a network of footpaths.

Non-breeding birds (September to January)

- 3.15 The potential for disturbance may be different in winter than in summer, in that there are often a smaller number of recreational users. In addition, the consequences of disturbance at a population level may be reduced because birds are not breeding. How ever, activity outside of the summer months can still cause important disturbance, especially as birds are particularly vulnerable at this time of year due to food shortages. Disturbance which results in abandonment of suitable feeding areas can have severe consequences for those birds involved and their ability to find alternative feeding areas. The majority of research has been done with waterbirds, how ever heathland and woodland birds will act in a similar way to disturbance. Evans & Warrington¹² found that on Sundays total water bird numbers (including shoveler and gadw all) were 19% higher on Stocker's Lake LNR in Hertfordshire and attributed this to observed greater recreational activity on surrounding water bodies at weekends relative to week days displacing birds into the LNR. How ever, in this study, recreational activity was not quantified in detail, nor were individual recreational activities evaluated separately; and
 - Tuite et al¹³ used a large (379 site), long-term (10-year) dataset (September March species counts) to correlate seasonal changes in wildfowl abundance with the presence of various recreational activities. They found that shoveler was one of the most sensitive species to disturbance. The greatest impact on wildfowl numbers during these months was associated with sailing/windsurfing and rowing.
- 3.16 More recent research has established that human activity including recreational activity can be linked to disturbance of w intering w aterfowl populations^{14 15}.
- 3.17 Human activity can affect birds either directly (e.g. through causing them to flee) or indirectly (e.g. through damaging their habitat or reducing their fitness in less obvious ways e.g. stress). The most obvious direct

¹⁰ Mallord J. (2005) Predicting the consequences of human disturbance, urbanisation and fragmentation for a woodlark Lullula arborea population. PhD Thesis, University of East Anglia, Norwich, UK.

¹¹ Liley, D. (2005) A summary of the evidence base for disturbance effects to Annex 1 bird species on the Thames Basin Heaths & research on human access patterns to heathlands in southern england. Footprint Ecology / English Nature.

 ¹² Evans, D.M. & Warrington, S. 1997. The effects of recreational disturbance on wintering waterbirds on a mature gravel pitlake near London. International Journal of Environmental Studies 53: 167-182
 ¹³ Tuite, C.H., Hanson, P.R. & Owen, M. 1984. Some ecological factors affecting winter wild fowl distribution on inland waters

¹³ Tuite, C.H., Hanson, P.R. & Owen, M. 1984. Some ecological factors affecting winter wild fowl distribution on inland waters in England and Wales and the influence of water-based recreation. *Journal of Applied Ecology* 21: 41-62

¹⁴ Footprint Ecology. 2010. Recreational Disturbance to Birds on the Humber Estuary

¹⁵ Footprint Ecology, Jonathan Cox Associates & Bournemouth University. 2010. Solent disturbance and mitigation project – various reports.

effect is that of immediate mortality such as death by shooting, but human activity can also lead to behavioural changes (e.g. alterations in feeding behaviour, avoidance of certain areas and use of sub optimal areas etc.) and physiological changes (e.g. an increase in heart rate) that, although less noticeable, may ultimately result in major population-level effects by altering the balance betw een immigration/birth and emigration/death¹⁶.

- 3.18 The degree of impact that varying levels of noise will have on different species of bird is poorly understood except that a number of studies have found that an increase in traffic levels on roads does lead to a reduction in the bird abundance within adjacent hedgerows Reijnen et al (1995) examined the distribution of 43 passerine species (i.e. 'songbirds'), of which 60% had a low er density closer to the roadside than further aw ay. By controlling vehicle usage they also found that the density generally was low er along busier roads than quieter roads¹⁷. A study on Holt Heath noted reduced levels of fitness due to occupation of sub optimal habitats alongside roads amongst heathland species.
- 3.19 A recent study on recreational disturbance on the Humber¹⁸ assesses different types of noise disturbance on waterfowl referring to studies relating to aircraft (see Drewitt 1999¹⁹), traffic (Reijnen, Foppen, & Veenbaas 1997)²⁰, dogs (Lord, Waas, & Innes 1997²¹; Banks & Bryant 2007²²) and machinery (Delaney et al. 1999; Tempel & Gutierrez 2003). These studies identified that there is still relatively little work on the effects of different types of water-based craft and the impacts from jet skis, kite surfers, windsurfers etc. (see Kirby et al. 2004²³ for a review). Some types of disturbance are clearly likely to invoke different responses. In very general terms, both distance from the source of disturbance and the scale of the disturbance (noise level, group size) will both influence the response (Delaney et al. 1999²⁴; Beale & Monaghan 2005²⁵). On UK estuaries and coastal sites, a review of WeBS data show ed that, among the volunteer WeBS surveyors, driving of motor vehicles and shooting were the two activities most perceived to cause disturbance (Robinson & Pollitt 2002)²⁶.

Other activities causing disturbance

- 3.20 Activities other than recreation may also lead to disturbance of wildlife.
- 3.21 Disturbing activities are on a continuum. The most disturbing activities are likely to be those that involve irregular, infrequent, unpredictable loud noise events, movement or vibration of long duration. The presence of people and dogs generate a substantial disturbance effects because of the areas accessed and the impact of a potential predator on bird behaviour. Birds are least likely to be disturbed by activities that involve regular, frequent, predictable, quiet patterns of sound or movement or minimal vibration. The further any activity is from the birds, the less likely it is to result in disturbance.
- 3.22 The factors that influence a species response to a disturbance are numerous, but the three key factors are species sensitivity, proximity of disturbance sources and timing/duration of the potentially disturbing activity.
- 3.23 The distance at which a species takes flight when approached by a disturbing stimulus is known as the 'tolerance distance' (also called the 'escape flight distance') and differs between species to the same stimulus and within a species to different stimuli.

²¹ Lord, A., Waas, J.R. & Innes, J. (1997) Effects of human activity on the behaviour of northern New Zealand dotterel Charadrius obscurus aquilonius chicks. Biological Conservation, 82, 15-20.

¹⁶ Riley, J. 2003. Review of Recreational Disturbance Research on Selected Wildlife in Scotland. Scotlish Natural Heritage.
¹⁷ Reijnen, R. et al. 1995. The effects of car traffic on breeding bird populations in woodland. III. Reduction of density in relation to the proximity of main roads. Journal of Applied Ecology 32: 187-202

¹⁸ Helen Feamley Durwyn Liley and Katie Cruickshanks (2012) Results of Recreational Visitor Survey across the Humber Estuary produced by Footprint Ecology

¹⁹ Drewitt, A. (1999) Disturbance effects of aircraft on birds. English Nature, Peterborough.

 ²⁰ Reijnen, R., Foppen, R. & Veenbaas, G. (1997) Disturbance by traffic of breeding birds: evaluation of the effect and considerations in planning and managing road corridors. Biodiversity and Conservation, 6, 567-581.
 ²¹ Lord, A., Waas, J.R. & Innes, J. (1997) Effects of human activity on the behaviour of northern New Zealand dotterel

²² Banks, P.B. & Bryant, J.V. (2007) Four-legged friend of foe? Dog-walking displaces native birds from natural areas. Biology Letters, 3, 611-613.

²³ Kirby, J.S., Clee, C. & Seager, V. (1993) Impact and extent of recreational disturbance to wader roosts on the Dee estuary: some preliminary results. Wader Study Group Bulletin, 68, 53-58.

²⁴ Delaney, D.K., Grubb, T.G., Beier, P., Pater, L.L.M. & Reiser, H. (1999) Effects of Helicopter Noise on Mexican Spotted Owls. The Journal of Wildlife Management, 63, 60-76.

²⁵ Beale, C.M. & Monaghan, P. (2005) Modeling the Effects of Limiting the Number of Visitors on Failure Rates of Seabird Nests. Conservation Biology, 19, 2015-2019.

²⁶ Robinson, J.A. & Pollitt, M.S. (2002) Sources and extent of human disturbance to waterbirds in the UK: an analysis of Wetland Bird Survey data, 1995/96 to 1998/99: Less than 32% of counters record disturbance at their site, with differences in causes between coastal and inland sites. Bird Study, 49, 205.

- 3.24 The potential for apparent disturbance may be less in winter than in summer, in that there are often a smaller number of recreational users. In addition, the consequences of disturbance at a population level may be reduced because birds are not breeding. How ever, activity outside of the summer months can still cause important disturbance, especially as birds are particularly vulnerable at this time of year due to food shortages. Disturbance which results in abandonment of suitable feeding areas can have severe consequences for those birds involved and their ability to find alternative feeding areas. Several empirical studies have, through correlative analysis, demonstrated that out-of-season (October-March) recreational activity can result in quantifiable disturbance:
 - Tuite et al²⁷ found that during periods of high recreational activity, bird numbers at Llangorse Lake decreased by 30% as the morning progressed, matching the increase in recreational activity tow ards midday. During periods of low recreational activity, how ever, no change in numbers was observed as the morning progressed. In addition, all species were found to spend less time in their 'preferred zones' (the areas of the lake used most in the absence of recreational activity) as recreational intensity increased;
 - Underhill et al²⁸ counted w aterfowl and all disturbance events on 54 w ater bodies w ithin the South West London Water Bodies Special Protection Area and clearly correlated disturbance w ith a decrease in bird numbers at w eekends in smaller sites and w ith the movement of birds w ithin larger sites from disturbed to less disturbed areas.
- 3.1 Human activity can affect birds either directly (e.g. through causing them to flee) or indirectly (e.g. through damaging their habitat). The most obvious direct effect is that of immediate mortality such as death by shooting, but human activity can also lead to behavioural changes (e.g. alterations in feeding behaviour, avoidance of certain areas *etc.*) and physiological changes (e.g. an increase in heart rate) that, although less noticeable, may ultimately result in major population-level effects by altering the balance betw een immigration/birth and emigration/death²⁹. The impact of disturbance on birds changes during the seasons in relation to a number of very specific factors, for example the w inter below freezing temperature, the birds fat resource levels and the need to remain w atchful for predators rather than feeding. These considerations lead to birds apparently showing different behavioural responses at different times of the year.
- 3.2 The degree of impact that varying levels of noise will have on different species of bird is poorly understood except that a number of studies have found that an increase in traffic levels on roads does lead to a reduction in the bird abundance within adjacent hedgerows Reijnen et al (1995) examined the distribution of 43 passerine species (i.e. 'songbirds'), of which 60% had a low er density closer to the roadside than further aw ay. By controlling vehicle usage they also found that the density generally w as low er along busier roads than quieter roads³⁰.

Mechanical/abrasive damage and nutrient enrichment

- 3.3 Most types of aquatic or terrestrial European site can be affected by trampling, which in turn causes soil compaction and erosion:
 - Wilson & Seney (1994)³¹ examined the degree of track erosion caused by hikers, motorcycles, horses and cyclists from 108 plots along tracks in the Gallatin National Forest, Montana. Although the results proved difficult to interpret, it was concluded that horses and hikers disturbed more sediment on wet tracks, and therefore caused more erosion, than motorcycles and bicycles.
 - Cole et al (1995a, b)³² conducted experimental off-track trampling in 18 closed forest, dw arf scrub and meadow & grassland communities (each tramped betw een 0 – 500 times) over five mountain

²⁷ Tuite, C. H., Owen, M. & Paynter, D. 1983. Interaction between wildfowl and recreation at Llangorse Lake and Talybont Reservoir, South Wales. *Wildfowl* 34:48-63

²⁸ Underhill, M.C. et al. 1993. Use of Waterbodies in South West London by Waterfowl. An Investigation of the Factors Affecting Distribution, Abundance and Community Structure. Report to Thames Water Utilities Ltd. and English Nature. Wetlands Advisory Service, Slimbridge

²⁹ Riley, J. 2003. Review of Recreational Disturbance Research on Selected Wildlife in Scotland. Scottish Natural Heritage.
³⁰ Reijnen, R. et al. 1995. The effects of car traffic on breeding bird populations in woodland. III. Reduction of density in relation to the proximity of main roads. Journal of Applied Ecology 32: 187-202

³¹ Wilson, J.P. & J.P. Seney. 1994. Erosional impact of hikers, horses, motorcycles and off road bicycles on mountain trails in Montana. Mountain Research and Development 14:77-88

³² Cole, D.N. 1995a. Experimental trampling of vegetation. I. Relationship between trampling intensity and vegetation response. Journal of Applied Ecology 32: 203-214

Cole, D.N. 1995b. Experimental trampling of vegetation. II. Predictors of resistance and resilience. Journal of Applied Ecology 32: 215-224

regions in the US. Vegetation cover was assessed two weeks and one year after trampling, and an inverse relationship with trampling intensity was discovered, although this relationship was weaker after one year than two weeks indicating some recovery of the vegetation. Differences in plant morphological characteristics were found to explain more variation in response between different vegetation types than soil and topographic factors. Low-growing, mat-forming grasses regained their cover best after two weeks and were considered most resistant to trampling, while tall forbs (non-woody vascular plants other than grasses, sedges, rushes and ferns) were considered least resistant. Cover of hemicryptophytes and geophytes (plants with buds below the soil surface) was heavily reduced after two weeks but had recovered well after one year and as such these were considered most resilient to trampling. It was concluded that these would be the least tolerant of a regular cycle of disturbance.

- Cole (1995c)³³ conducted a follow -up study (in 4 vegetation types) in which shoe type (trainers or walking boots) and trampler weight were varied. Although immediate damage was greater with walking boots, there was no significant difference after one year. Heavier tramplers caused a greater reduction in vegetation height than lighter tramplers, but there was no difference in effect on cover.
- Cole & Spildie (1998)³⁴ experimentally compared the effects of off-track trampling by hiker and horse (at two intensities – 25 and 150 passes) in two woodland vegetation types (one with an erect forb understorey and one with a low shrub understorey). Horse traffic was found to cause the largest reduction in vegetation cover. The forb-dominated vegetation suffered greatest disturbance, but recovered rapidly. Higher trampling intensities caused more disturbance.
- 3.4 Walkers with dogs contribute to pressure on sites through nutrient enrichment via dog fouling and also cause greater disturbance to fauna as dogs are less likely to keep to marked footpaths and also tend to move in a more erratic manner. Sites being managed by nature conservation bodies and local authorities frequently resort to hardening eroded paths to restrict erosion but at the same time they are losing the habitats formerly used by sand lizards and burrowing invertebrates. Motorcycle scrambling and off-road vehicle use can cause more serious erosion, as well as disturbance to sensitive species. Boats can also cause some mechanical damage to intertidal habitats through grounding as well as anchor and anchor line damage.

Water Quality and Water Resources

- 3.5 Increased amounts of housing or business development can lead to reduced water quality of rivers and estuarine environments. Sew age and industrial effluent discharges can contribute to increased nutrients on European sites leading to unfavourable conditions. In addition, diffuse pollution, partly from urban runoff has been identified during an Environment Agency Review of Consents process and a joint Environment Agency and Natural England evidence review, as being a major factor in causing unfavourable condition of European sites.
- 3.6 The quality of the water that feeds European sites is an important determinant of the nature of their habitats and the species they support. Poor water quality can have a range of environmental impacts:
 - At high levels, toxic chemicals and metals can result in immediate death of aquatic life, and can have detrimental effects even at low er levels, including increased vulnerability to disease and changes in wildlife behaviour. Eutrophication, the enrichment of plant nutrients in water, increases plant grow th and consequently results in oxygen depletion. Algal blooms, which commonly result from eutrophication, increase turbidity and decrease light penetration. The decomposition of organic wastes that often accompanies eutrophication deoxygenates water further, augmenting the oxygen depleting effects of eutrophication. In the marine environment, nitrogen is the limiting plant nutrient and so eutrophication is associated with discharges containing available nitrogen;
 - Some pesticides, industrial chemicals, and components of sew age effluent are suspected to interfere with the functioning of the endocrine system, possibly having negative effects on the reproduction and development of aquatic life; and

³³ Cole, D.N. 1995c. Recreational trampling experiments: effects of trampler weight and shoe type. Research Note INT-RN-425. U.S. Forest Service, Intermountain Research Station, Utah.

³⁴ Cole, D.N., Spildie, D.R. 1998. Hiker, horse and Ilama trampling effects on native vegetation in Montana, USA. Journal of Environmental Management 53: 61-71

- Increased discharge of treated sew age effluent can result both in high levels of macroalgal grow th, w hich can smother the mudflats of value to SPA birds and in greater scour (as a result of greater flow volumes).
- 3.7 At sew age treatment works, additional residential development increases the risk of effluent escape into aquatic environments in addition to consented discharges to the catchment. In many urban areas, sew age treatment and surface water drainage systems are combined, and therefore a predicted increase in flood and storm events could increase pollution risk.

Atmospheric Pollution (Atmospheric Nitrogen Deposition)

3.8 The main pollutants of concern for European sites are oxides of nitrogen (NO_x), ammonia (NH₃) and sulphur dioxide (SO₂). NO_x can have a directly toxic effect upon vegetation. In addition, greater NO_x or ammonia concentrations within the atmosphere will lead to greater rates of nitrogen deposition to soils. An increase in the deposition of nitrogen from the atmosphere to soils is generally regarded to lead to an increase in soil fertility, which can have a serious deleterious effect on the quality of semi-natural, nitrogen-limited terrestrial habitats.

Pollutant	Source	Effects on habitats and species
Acid deposition	SO_2 , NO_x and ammonia all contribute to acid deposition. Although future trends in S emissions and subsequent deposition to terrestrial and aquatic ecosystems will continue to decline, it is likely that increased nitrogen emissions may cancel out any gains produced by reduced suplhur levels.	Can affect habitats and species through both wet (acid rain) and dry deposition. Some sites will be more at risk than others depending on soil type, bed rock geology, weathering rate and buffering capacity.
Ammonia (NH₃)	Ammonia is released following decomposition and volatilisation of animal wastes. It is a naturally occurring trace gas, but levels have increased considerably with expansion in numbers of agricultural livestock. Ammonia reacts with acid pollutants such as the products of SO ₂ and NO _x emissions to produce fine ammonium (NH ₄ ⁺) containing aerosol which may be transferred much longer distances (can therefore be a significant trans-boundary issue.)	Adverse effects are as a result of nitrogen deposition leading to eutrophication. As emissions mostly occur at ground level in the rural environment and NH ₃ is rapidly deposited, some of the most acute problems of NH ₃ deposition are for small relict nature reserves located in intensive agricultural landscapes.
Nitrogen oxides NO _x	Nitrogen oxides are mostly produced in combustion processes. About one quarter of the UK's emissions are from power stations.	Deposition of nitrogen compounds (nitrates (NO_3) , nitrogen dioxide (NO_2) and nitric acid (HNO_3)) can lead to both soil and freshwater acidification. In addition, NO_x can cause eutrophication of soils and water. This alters the species composition of plant communities and can eliminate sensitive species.
Nitrogen (N) deposition	The pollutants that contribute to nitrogen deposition derive mainly from NO_x and NH_3 emissions. These pollutants cause acidification (see also acid deposition) as well as eutrophication.	Species-rich plant communities with relatively high proportions of slow-growing perennial species and bryophytes are most at risk from N eutrophication, due to its promotion of competitive and invasive species which can respond readily to elevated levels of N. N deposition can also increase the risk of damage from abiotic factors, e.g. drought and frost.
Ozone (O ₃)	A secondary pollutant generated by photochemical reactions from NO_x and volatile organic compounds (VOCs). These are mainly released by the combustion of fossil fuels. The increase in combustion of fossil fuels in the UK has led to a large	Concentrations of O ₃ above 40 ppb can be toxic to humans and wildlife, and can affect buildings. Increased ozone concentrations may lead to a reduction in growth of agricultural crops, decreased forest production and altered

Table 2: Main sources and effects of air pollutants on habitats and species

	increase in background ozone concentration, species composition in semi-natural plant leading to an increased number of days when levels communities. across the region are above 40ppb. Reducing ozone pollution is believed to require action at international level to reduce levels of the precursors that form
	ozone.
Sulphur Dioxide SO2	Main sources of SO ₂ emissions are electricity Wet and dry deposition of SO ₂ acidifies soils generation, industry and domestic fuel combustion. and freshwater, and alters the species May also arise from shipping and increased composition of plant and associated animal atmospheric concentrations in busy ports. Total communities. The significance of impacts

3.9 Sulphur dioxide emissions are overwhelmingly influenced by the output of power stations and industrial processes that require the combustion of coal and oil. Ammonia emissions are dominated by agriculture, with some chemical processes also making notable contributions. As such, it is unlikely that material increases in SO₂ or NH₃ emissions will be associated with Local Plans. NO_x emissions, how ever, are dominated by the output of vehicle exhausts. Within a 'typical' housing development, by far the largest contribution to NO_x (92%) will be made by the associated road traffic. Other sources, although relevant, are of minor importance (8%) in comparison³⁵. Emissions of NO_x could therefore be reasonably expected to increase as a result of greater vehicle use as an indirect effect of the LDF.

SO₂ emissions have decreased substantially in the depends on levels of deposition and the

buffering capacity of soils.

3.10 According to the World Health Organisation, the critical NO_x concentration (critical threshold) for the protection of vegetation is 30 µgm⁻³; the threshold for sulphur dioxide is 20 µgm⁻³. In addition, ecological studies have determined 'Critical Loads'³⁶ of atmospheric nitrogen deposition (that is, NO_x combined with ammonia NH₃) for key habitats within European sites.

Local Air Pollution

UK since the 1980s.

3.11 According to the Department of Transport's Transport Analysis Guidance, "Beyond 200m, the contribution of vehicle emissions from the roadside to local pollution levels is not significant"³⁷.



Plate 1. Traffic contribution to concentrations of pollutants at different distances from a road (Source: DfT)

3.12 This is therefore the distance that is used throughout the HRA process in order to determine whether a European site is likely to be significantly affected by development under a Plan.

³⁵ Proportions calculated based upon data presented in Dore CJ et al. 2005. UK Emissions of Air Pollutants 1970 – 2003. UK National Atmospheric Emissions Inventory. <u>http://www.airquality.co.uk/archive/index.php</u>

³⁶ The Critical Load is the rate of deposition beyond which research indicates that adverse effects can reasonably be expected to occur

³⁷ www.webtag.org.uk/archive/feb04/pdf/feb04-333.pdf

3.13 Within the HRAs of the King's Lynn and West Norfolk Core Strategy (2011) and Site Allocation and Development Management Plan (SADMP, 2016), air pollution was not identified as an issue for the European sites located within the Borough. Therefore, air quality is not discussed further within this HRA.

4. Test of Likely Significance

Introduction

- 4.1 The initial scoping of European designated sites illustrated in Table 1 identifies that some site are potentially vulnerable to:
 - Recreational pressure
 - Water quality
 - Water resources
- 4.2 The full test of Likely Significant Effects for the Castle Acre Neighbourhood Plan is presented in Appendix B. The assessment took into consideration the above potential vulnerabilities of the European sites included in Table 1.
- 4.3 The following sections therefore focus on Norfolk Valley Fens SAC, Breckland SPA and the River Wensum SAC.

Summary of Test of Likely Significance 'Alone'

- 4.4 No policies within the Castle Acre Neighbourhood Plan are considered to have an effect on European sites 'alone'.
- 4.5 Policies considered to have an effect on European sites only 'in combination' with other plans and projects are discussed below.

Summary of Test of Likely Significance 'In Combination'

- 4.6 Of the 14 Neighbourhood Plan policies, three policies, were considered to have the potential to result in a likely significant effect in combination:
 - Policy HD.1 Housing provision Provides support for the allocation and development of 11
 residential dw ellings on two sites within the Neighbourhood plan area and acknowledges the
 approved development of a further 19 dw ellings at the Massingham Road site.
 - Policy TO.1 Protecting Existing Tourism and Community Facilities Provides support for improving tourism facilities within the Neighbourhood Plan area.
 - Policy BU.1 Business Development Provides support for new business development including home based and live w ork units as w ell as business accommodation.
- 4.7 The above policies provide for the following realistic potential linking impact pathways that could result in likely significant effects on European sites in combination:
 - Recreational pressure: as a result of new residential dw ellings, business development and tourist facilities. (Policies: HD.1, TO.1 and BU.1)
 - Water quality and resources: increased demand for water and increased effluent as a result of increased accommodation and business uses. (Policies: HD.1 and BU.1).
- 4.8 All remaining policies are development management policies that do not provide impact pathways that could potentially link to European sites.
- 4.9 Each of the above policies will be discussed further within the 'in combination' section of the appropriate assessment in relation to the following European sites.

Norfolk Valley Fens SAC

4.10 Norfolk Valley Fens SAC is located 4.7 km west of Castle Acre Neighbourhood Plan area. The closest proposed residential development is located 6.5 km east of the SAC. The SAC has been identified to be vulnerable to water pollution and water abstraction.

Breckland SPA

4.11 Breckland SPA is located 5.7 km south of the Castle Acre Neighbourhood Plan Area. The closest proposed residential development is located 6.3 km north of the SPA. The SPA has been identified to be vulnerable to increased disturbance through recreational pressure and water pollution.

River Wensum SAC

4.12 River Wensum SAC is located 8.0 km north east of the Castle Acre Neighbourhood Plan Area. The closest proposed residential development is located 10.9 km to the south west of the SAC. The SAC has been identified to be vulnerable to water pollution and water abstraction.

5. Appropriate Assessment

'Alone' Assessment

5.1 Due to the quantum of development and the distance from any European site discussed in the test of likely significant effects section, there is no potential for the growth within the Neighbourhood Plan to lead to adverse effects 'alone', but only 'in combination' with other plans and projects. Therefore, the Appropriate Assessment below will focus on impact pathways 'in combination'.

'In Combination' Assessment

5.2 The 'in combination' assessment examines the Castle Acre Neighbourhood Plan's planned grow th with regards to impacts of recreational pressure and water quality and resources on the integrity of European sites, 'in combination with the overarching King's Lynn and West Norfolk Core Strategy and the SADMP, as well as Local Plans from the surrounding boroughs. A full list of in combinations plans is in Paragraph 2.23.

Recreational Pressure

- 5.3 The King's Lynn and West Norfolk Adopted Core Strategy (2011) provides for 16,500 new dw ellings across the Borough over the period 2001 2026, as stated in Policy CS09 Housing Distribution. The policy states that 'provision will be made for at least 1,280 new dwellings in total (with allocations for at least 215 new homes) in the rural villages'. These allocations are to be restricted to small scale infill and affordable housing allocations to meet the needs of the local communities.
- 5.4 Eleven residential dw ellings have been allocated within the Castle Acre Neighbourhood Plan. Two sites have been allocated in the plan:
 - Site CA2 Holkham North of New Development- 7 dw ellings
 - Site CA3 Glebe Land off South Acre Road 4 dw ellings
- 5.5 These sites are in addition to Site CA1 which was allocated for the Parish at the Local Plan stage;
 - Site CA1 Land at Massingham Road (Holkham New Development) 19 dw ellings
- 5.6 This brings the total housing allocated within the Parish, at both Local Plan and Neighbourhood Plan stage, to thirty dw ellings. This is 15 in excess of the 'at least 15' requirement from the Local Authority based on the Local Plan 2016 2026. There is currently no demand from the Local Authority for housing in the Castle Acre Parish as it has a 'nil' requirement for new housing in the village for the Emerging Local Plan to 2036.
- 5.7 In addition to the residential development policies that have been stated above. The Castle Acre Neighbourhood plan also supports new business development *'through the provision of business accommodation...* [such as] *home based and live work units'*. This type of business development provides for a residential element in addition to the business and therefore can also be considered to potentially increase residential pressure on European sites. The Neighbourhood Plan also has a policy for upgrading tourism facilities. Potential increased tourism to the area could again increase the recreational pressure upon European sites; how ever, the policy also provides a level of protection against adverse effects where it states; *"Upgraded facilities should... not adversely affect Historic and Natural Environments"*. The Neighbourhood Plan Group has confirmed that the purpose of this policy is to ensure adequate facilities to cater for current levels of tourism rather than to actively encourage greater levels of tourism.
- 5.8 Recreational pressure is only a vulnerability of the Breckland SPA through the disturbance of breeding woodlark, nightjar, and stone curlew. The Norfolk Valley Fens SAC and River Wensum SAC are not vulnerable to recreational pressure, therefore the only European site to be discussed further here is the Breckland SPA. The Breckland SPA is 5.7 km south of the Castle Acre Neighbourhood Plan area and 6.7 km south of the closest allocated residential site. Although the SPA is a considerable distance from the closest residential development a visitor survey conducted by Footprint Ecology³⁸ in 2011 reported that half of all visitors to the Breckland SPA, interview ed within the study, lived within 8.8 km of the SPA and on average, those that were not on holiday, lived within 16.7 km of the SPA. Those that were there for dog walking, one of the more disturbing activities, only came from within 5.6 km of the SPA. The survey did not

³⁸ Fearnley, H., Liley, D. and Cruickshanks, K. (2010). Visitor survey from results Breckland SPA. Footprint Ecology.

go into detail regarding the origin of visitors from beyond St Edmundsbury and Forest Heath Districts (now West Suffolk District). Therefore, it is assumed as a precaution that the residential developments within the Castle Acre Neighbourhood Plan may lie within the recreational catchment of the SPA.

- 5.9 In addition, the test of likely significant effects within HRA³⁹ for the Site Allocations and Development Management Policies Plan proposed submission document (SADMP) (2015) concluded that there would be an 'in combination' effect of increased recreational pressure on the Breckland SPA from new housing at Castle Acre as it was within 8km of the SPA. Within the Appropriate Assessment it recommended policy changes to the SADMP to include provision of an agreed package of habitat protection measure. This is reflected in the now adopted version of the SADMP.
- 5.10 In order to mitigate the likely significant effect posed by an increase in recreation pressure from increased residential development within 8km of the SPA. The SADMP (2016) states with Policy DM19 (Green Infrastructure/Habitats Monitoring and Mitigation) *'in relation to Habitats Regulations assessment monitoring and mitigation the Council has endorsed a Monitoring and Mitigation Strategy including:*
 - Project level HRA to establish affected areas (SPA, SAC, RAMSAR) and a suite of measures including all/some of:
 - Provision of an agreed package of habitat protection measures, to monitor recreational pressure resulting from the new allocations and, if necessary, mitigate adverse impacts before they reach a significant threshold, in order to avoid an adverse effect on the European sites identified in the HRA. This package of measures will require specialist design and assessment, but is anticipated to include provision of:
 - i. A monitoring programme, which will incorporate new and recommended further actions from the Norfolk visitor pressure study (anticipated to be completed in Spring 2016) as well as undertaking any other monitoring not covered by the County-wide study.
 - ii. Enhanced informal recreational provision on (or in close proximity to) the allocated site [Sustainable Accessible Natural Greenspace], to limit the likelihood of additional recreational pressure (particularly in relation to exercising dogs) on nearby relevant nature conservation sites. This provision will be likely to consist of an integrated combination of:
 - 1. Informal open space (over and above the Council's normal standards for play space);
 - 2. Landscaping, including landscape planting and maintenance;
 - 3. A network of attractive pedestrian routes, and car access to these, which provide a variety of terrain, routes and links to the wider public footpath network.
 - iii. Contribution to enhanced management of nearby designated nature conservation sites and/or alternative green space;
 - iv. A programme of publicity to raise awareness of relevant environmental sensitivities and of alternative recreational opportunities.
- 5.11 Notwithstanding the above suite of measures the Borough Council will levy an interim Habitat Mitigation Payment of £50 per house to cover monitoring/small scale mitigation at the European sites.' This is expanded further within the Borough Council of King's Lynn and West Norfolk Natura 2000 Sites Monitoring and Mitigation Strategy document produced in 2015.
- 5.12 Currently the Castle Acre Neighbourhood Plan does not contain a policy relating to the protection of European sites or mitigation for increased recreational pressure. It is recommended that, in line with the SADMP (2016) policy DM19 the Castle Acre Neighbourhood Plan should include a Policy relating to the protection of European sites and explicitly referencing the existence of the SADMP and the Monitoring and Mitigation Strategy document and the need for developers to make a £50 per dwelling contribution. This requirement could be included within Policy NE2.

³⁹ <u>https://www.west-norfolk.gov.uk/downloads/download/63/submission_documents</u> Habitats Regulations Assessment (September 2015) [Accessed 21/10/2019]

- 5.13 The Neighbourhood Plan Group have confirmed the inclusion of this recommendation within Policy NE2 in an update to the Plan. It will read:
- 5.14 "Any development bought forward within the Neighbourhood Plan area must ensure that it can be implemented without any adverse effects upon the integrity if the European sites. Proposals that will adversely affect the integrity of European sites will not be supported. Attention is drawn in particular to the overarching Policy DM19 within the SADM P (2015) and the Borough Council of King's Lynn and West Norfolk Natura 2000 sites Monitoring and Mitigation Strategy (2015), which describe measures to ensure no adverse effect on European sites, including that housing developers must pay a standard contribution to the monitoring and mitigation of European sites within Norfolk. This rate is currently£50 per dwelling"
- 5.15 Including this statement within the Neighbourhood Plan, it can be concluded that the Plan will not adversely affect the integrity of the Breckland SPA in combination with other plans and projects regarding recreational pressure.

Water Resources and Water Quality

- 5.16 Increased amounts of housing or business development can lead to reduced water quality of rivers and estuarine environments. Sew age and industrial effluent discharges can contribute to increased nutrients on European sites leading to unfavourable conditions. In addition, diffuse pollution, partly from urban run-off has been identified during an Environment Agency Review of Consents process and a joint Environment Agency and Natural England evidence review, as being a major factor in causing unfavourable condition of European sites.
- 5.17 The water supply for the village comes from boreholes at North Pickenham, via the Sw affhamwater tow er. The sew erage is treated by Anglian Water at the treatment plant at the bottom of the Water Meadows. The sew age is pumped via a new pumping system passing beneath the SSSI and the River Nar and then onto Sw affhamfor treatment.
- 5.18 Within the SADMP (2016) 1,280 new dw ellings are allocated within the rural villages of the borough. Although the level of housing allocated within the Castle Acre neighbourhood plan is higher than that allocated within the Core Strategy (11 dw ellings), the quantum of housing is very low within the Castle Acre Neighbourhood Plan and the additional number of housing (up to 30 new dw ellings) is also very low, these dw ellings are likely to produce only a very small amount of the increase in demand for water and increase in effluent of the total 16,500 dw ellings that are allocated within the Plan.
- 5.19 Therefore, although the quantum of development to be provided by the Castle Acre Neighbourhood Plan not in conformity with the overarching King's Lynne and West Norfolk Core Strategy (2011) and the SA DMP (2016) (which has been subject to HRA that concluded no adverse effects on integrity), the additional housing provided is such a low number of additional dw ellings the increase in water demand and water treatment needed is insignificant. In addition, the overall quantum of housing (16,500 dw ellings) has not increased. The impact pathways relating to increase water demand and increased water treatment provided by the additional business/housing, that could result in an increase in water abstraction and increased effluent has been addressed at a higher tier level within the King's Lynn and West Norfolk Core Strategy (2011) and is also addressed at a wider level within the Revised Draft Water Resources Management Plan (2019) (WRMP) by Anglian Water w ho supply and treat water in the Castle Acre area. As the revised draft WRMP is not final yet there is no HRA in the public domain, how ever the HRA for the 2015 Anglian Water WRMP summarised that *the HRA demonstrated that with the implementation of mitigation measures [*stated within the HRA] *the WRMP preferred plan will not have adverse effects on site integrity* of European sites.
- 5.20 It can therefore be concluded that the Castle Acre Neighbourhood Plan will not affect the integrity European sites regarding water resources and water quality.

6. Conclusions and Recommendations

- 6.1 This assessment undertook both screening and Appropriate Assessment of the policies and any allocations within the Castle Acre Neighbourhood Plan
- 6.2 The European designated sites, considered within the Appropriate Assessment for impact pathways that could not be screened out at the screening stage were:
 - Norfolk Valley Fens SAC
 - Breckland SPA
 - River Wensum SAC
- 6.3 Impact pathways considered were: recreational pressure, water quality and resources.
- 6.4 It has been concluded that the Castle Acre Neighbourhood Plan will not affect the integrity of European sites in relation to recreational pressure due to the overarching provisions of the SADMP (2016) Policy DM19, with which all new housing in the Neighbourhood Plan will need to comply with a suite of monitoring and mitigation which is described within the Borough Council of King's Lynn and West Norfolk Natura 2000 sites Monitoring and Mitigation Strategy (2015), whereby the developer will, at a minimum, have to pay a standard contribution to the monitoring and mitigation of European sites within Norfolk at a rate of £50 per dw elling.
- 6.5 The Neighbourhood Plan Group have confirmed the inclusion of the following recommended text within Policy NE2 of the Neighbourhood Plan: "Any development bought forward within the Neighbourhood Plan area must ensure that it can be implemented without any adverse effects upon the integrity of the European sites. Proposals that will adversely affect the integrity of European sites will not be supported. Attention is drawn in particular to the overarching Policy DM19 within the SADMP (2015) and the Borough Council of King's Lynn and West Norfolk Natura 2000 sites Monitoring and Mitigation Strategy (2015), which describe measures to ensure no adverse effect on European sites, including that housing developers must pay a standard contribution to the monitoring and mitigation of European sites within Norfolk. This rate is currently £50 per dwelling"
- 6.6 With regards to water quality and water resources, although the quantum of development to be provided by the Castle Acre Neighbourhood Plan is not in conformity with the overarching King's Lynne and West Norfolk Core Strategy (2011) and the SADMP (2016) (which has been subject to HRA that concluded no adverse effects on integrity), the additional housing provided is such a low number of additional dwellings the increase in water demand and water treatment needed is insignificant. In addition, the overall quantum of housing (16,500 dwellings) has not increased. The impact pathways relating to increased water demand and increased water treatment provided by the additional business/housing, that could result in an increase in water abstraction and increased effluent has been addressed at a higher tier level within the King's Lynn and West Norfolk Core Strategy (2011) and is also addressed at a wider level within the Revised Draft Water Resources Management Plan (2019) (WRMP) by Anglian Water who supply and treat water in the Castle Acre area. As the revised draft WRMP is not final yet there is no HRA in the public domain, how ever the HRA for the 2015 Anglian Water WRMP summarised that the HRA demonstrated that with the implementation of mitigation measures [stated within the HRA] the WRMP preferred plan will not have adverse effects on site integrity' of European sites. It can therefore be concluded that the Castle Acre Neighbourhood Plan will not affect the integrity European sites regarding water resources and water quality.
- 6.7 With the confirmed inclusion of the above recommendations within the Castle Acre Neighbourhood Plan it can be concluded that the Plan document will not result in an adverse effect on the integrity of any European sites either alone or in combination.

Appendix A European Site Background Information

Norfolk Valley Fens SAC

Introduction

Norfolk Valley Fens is one of two sites selected in East Anglia, in eastern England, where the main concentration of low land Alkaline fens occurs. This site comprises a series of valley-head spring-fed fens. Such spring-fed flush fens are very rare in the low lands. Most of the vegetation at this site is of the small sedge fen type, mainly referable to *Schoenus nigricans – Juncus subnodulosus* mire, but there are transitions to reedsw amp and other fen and wet grassland types.

Conservation Objectives⁴⁰

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

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

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

Qualifying Features⁴¹

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

• Alkaline Fens

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- Northern Atlantic wet heaths with Erica tetralix
- European dry heaths
- Semi-natural dry grassland and scrubland facies on calcareous substrates (Festuco-Brometalia) (* Important orchid sites)
- Molina meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)
- Calcareous fens with Cladium mariscus and species of the Caricion davallinanae.
- Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)

Annex II species that are a primary reason for selection of this site:

- Narrow-mouthed whorlsnail
- Desmoulin's whorlsnail

Environmental Vulnerabilities⁴²

- Inappropriate water levels
- Inappropriate scrub control
- Hydrological changes
- Water pollution
- Inappropriate cutting/mowing
- Water abstraction
- Undergrazing

⁴⁰ http://publications.naturalengland.org.uk/publication/6684666086031360 [Accessed 17/10/19]

⁴¹ https://sac.jncc.gov.uk/site/UK0012892 [Accessed 17/10/2019]

⁴² http://publications.naturalengland.org.uk/publication/6261291761008640 [Accessed 17/10/19]

- Overgrazing
- Invasive species
- Changes in land management
- Changes in species distributions
- Air pollution: impact of atmospheric nitrogen deposition

Breckland SPA

Introduction

The Breckland of Norfolk and Suffolk lies in the heart of East Anglia on largely sandy soils of glacial origin. In the 19th century the area was termed a sandy waste, with small patches of arable cultivation that were soon abandoned. The continental climate, with low rainfall and free-draining soils, has led to the development of dry heath and grassland communities. Much of Breckland was planted with conifers through the 20th century, and elsew here arable farming is the predominant land use. The remnants of dry heath and grassland that have survived these changes support heathland-breeding birds, where grazing by sheep and rabbits is sufficiently intensive to create short turf and open ground. These species have also adapted to live in forestry and arable habitats. Woodlark *Lullula arborea* and Nightjar *Caprimulgus europaeus* breed in recently felled areas and open heath areas within the conifer plantations, while Stone Curlew *Burhinus oedicnemus* establishes nests on open ground provided by arable cultivation in the spring.

Conservation Objectives⁴³

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- The extent and distribution of the habitats of the qualifying features
- The structure and function of the habitats of the qualifying features
- The supporting processes on which the habitats of the qualifying features rely
- The population of each of the qualifying features, and,
- The distribution of the qualifying features within the site.

Qualifying Features⁴⁴

This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive:

During the breeding season:

- Nightjar *Caprimukgus europaeus*; 415 pairs representing up to 12.2% of the breeding population in Great Britain (Count as at 1998)
- Stone Curlew *Burhinus oedicnmus*, 142 pairs representing up to 74% of the breeding population in Great Britain (Count as at 1998)
- Woodlark *Lullula arborea*, 430 pairs representing up to 28.7% of the breeding population in Great Britain (Count as at 1997)

Environmental Vulnerabilities⁴⁶

- Lack of ground disturbance
- Undergrazing
- Forestry and woodland management
- Water pollution
- Changes in species distributions
- Stone curlew monitoring and intervention
- Planning permission: general
- Monitoring

⁴³ http://publications.naturalengland.org.uk/publication/4572292419944448 [Accessed 17/10/19]

⁴⁴ <u>http://archive.jncc.gov.uk/default.aspx?page=2016</u> [Accessed 17/10/19]

⁴⁵ http://publications.naturalengland.org.uk/publication/5075188492271616 [Accessed 17/10/2019]

- Air pollution: impact of atmospheric nitrogen deposition
- Public access/disturbance
- Climate change
- Inappropriate scrub control
- Inappropriate management practices
- Habitat fragmentation
- Inappropriate weed control
- Inappropriate pest control
- Inappropriate cutting/mowing

River Wensum SAC

Introduction

The Wensum is a chalk-fed river in eastern England and a tributary of the River Yare, despite being the larger river of the two. The Wensum is the principal river on which Norw ich was founded. The source of the Wensum is in northwest Norfolk. Although the river is extensively regulated by weirs, Ranunculus vegetation occurs sporadically throughout much of the river's length.

Conservation Objectives⁴⁶

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

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

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

Qualifying Features⁴⁷

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

• Water courses of plain to montane levels with Ranunculion fluitantis and Callitricho-Batrachion vegetation

Annex II species that are a primary reason for selection of this site

• White-claw ed (or Atlantic stream) crayfish Austropotamobius pallipes

Environmental Vulnerabilities⁴⁸

- Physical modification
- Inappropriate weirs dams and other structures
- Siltation
- Invasive species
- Water pollution
- Water abstraction

⁴⁶ http://publications.naturalengland.org.uk/publication/6039440396910592 [Accessed 17/10/2019]

⁴⁷ https://sac.jncc.gov.uk/site/UK0012647 [Accessed 17/10/2019]

⁴⁸ http://publications.naturalengland.org.uk/publication/6720168281505792 [Accessed 17/10/2019]

Appendix B Policy Screening

Policy HE1 - Protecting Historic Assets Proposals for new development, irrespective of scale, har could either directly or indirectly affect the historic significance of any of Castle Acre's designated historic assets will not be supported, unless the tests set out in national guidance can be met and clear and convincing justification can be given. Such proposals should be supported by a detailed assessment in the form of a Heritage Statement. Proposals for new development on undeveloped sites where there is a reasonable prospect of unknown and unrecorded archaeological or historical assets being present should be accompanied by a detailed assessment of the potential impacts of the proposal on the unidentified asset to allow for an informed judgment to be made. Where previously unknown or unrecorded assets are found to be present, then developers will be required to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible. In assessing the impact of the proposal on the asset regard will be necessary to balance and have regard to the scale of any harm or loss and the significance of the heritage asset. No HRA Implications Policy HE2 - Conservation Area The established special character of the Conservation Area. b) Ensuring that new development is sympathetic to the special qualities and character of the Conservation Area. c) Protecting the setting of the conservation area from development which adversely affects view sint or out of the area. No HRA Implications Poiley HE2 - Conservation Area. b) Ensuring that new development is sympathetic to the special qualities and character of the Conservation Area. c) Protecting the setting of the conservation area from development whi
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adversely affects view s into or out of the area.
Proposals for the demolition, redevelopment or substantial alterations to the important
Unlisted Buildings identified in the Conservation Area Character Statement 2009 and
show n on Map HE2 should demonstrate the consideration that has been given to
retaining the:
 Important character building or historic feature itself;
• most distinctive and important reatures;
 positive elements of its setting and its relationship to its immediate
surroundings; and
 contribution that the building of historic reature and its setting makes to the character of the local area.
Character of the local area. Sector All new development irrespective of scale should reflect Castle Acro's legal
An new development intespective of scale should reflect castle Acres local no five implications
Character and housing should respect the scale materials and character of existing and surrounding

Vernacular Architecture	 buildings, reinforce local development patterns and be compatible with the form, scale, massing and character of adjacent properties where this provides a positive contribution. This can be achieved by new developments seeking to incorporate the follow ing important characteristic details within the design of the scheme. a) the use of traditional materials such as flint, pantile, slate and render; b) the use of sustainable materials; c) (c) the use of traditional detailing such as such as quoins, stone and brick lintels, brick bonds, roof lines, window and door types. 	This policy regards architectural design of new buildings in keeping with the local area. This policy does not provide for a quantum of residential development. There are no impact pathways connecting European sites.
Policy HE.4 –	The follow ing view s and vistas (as show n on the Maps below) are identified as	No HRA Implications
Important Views	Important Public Local Views.	
	 a) View from the Castle looking south west, and tow ards St James Tow er; b) Views from St James Church out over the Priory and across the valley; c) Views from St James Church out over the Priory and across the valley; c) Views from Chimney Street, to and from the Bailey Gate; d) Views from Chimney Street tow ards the river and across Castle Meadow; e) Views from East Green across open countryside; f) View from South Acre Ford across the meadow to the Priory; Proposals for development that would be visible within or would affect an important view should ensure that they respect and take account of the view concerned. Developments which would have an unacceptable adverse impact on the landscape or character of the view or vista will not be supported. 	This policy regards protecting important views within the local area, when building new residential development. This policy does not provide a quantum of residential development. There are no impact pathways connecting European sites.
Policy NE1 -	The visual scenic value of the landscape and countryside in the Neighbourhood Area	No HRA Implications
Protection of	outside the defined settlement boundary will be protected from development that may	
Landscape Setting	adversely affect its visual appearance or harm sensitive features typical of the Rolling	This policy regards protecting the view soutside of the defined
	Open Farmand Unaracter Area. Developments which adversely impact on the	settlement boundary to ensure sensitive reatures of the landscape
	over the Water Meadows will not be supported	There are no impact native sconnecting European sites
Policy NE 2 -	The following Natural Features will be protected from development that would have a	No HRA Implications
Habitats and Natural	significant adverse impact upon their character appearance and wildlife value.	
Features	a) The River Nar Site of Special Scientific Interest.	This policy regards protecting the natural features within and around
	b) Minns Meadow	the Neighbourhood Area.
	 c) The Water Meadows to the south and east of the village. d) Broadmeadow Common, e) Emanuel's Common f) Castle Acre Common All development proposals will be expected to retain existing features of landscape and biodiversity value (including ponds, trees, w oodland, hedgerows and verges) and, w here practical to do so, provide a net gain in biodiversity through for example: a) the creation of new natural habitats. b) the planting of additional trees and hedgerows and restoring and repairing fragmented biodiversity networks. 	There are no impact pathways connecting European sites.
	Where loss or damage are unavoidable, the benefits of the development proposals	
	must be demonstrated clearly to outweigh any impacts and the development shall	

	provide for appropriate replacement planting on site together with a method statement for the ongoing care and maintenance of that planting. Where a new access is created, or an existing access is widened through an existing hedgerow, a new hedgerow of native species shall be planted on the splay returns into the site to maintain the appearance and continuity of hedgerows in the vicinity. To prohibit vehicles from using part of South Acre Road from 50 metres below the junction with Blind Lane, across South Acre ford and onto Church Farm. This is to preserve the tranquillity of this SSSI beauty spot and to protect the gravel riverbed	
	from engine pollution and damage to fish spaw ning.	
Policy NE3 – Local Green Spaces	 The following areas are designated as Local Green Space for special protection as show n in Map NE3 below): a) Castle Meadow; b) Further Pond Close; and, c) Castle Acre Playing Field. Development on designated Local Green Spaces will only be supported in exceptional circumstances. Development adjacent to a Local Green Space that would 	No HRA Implications This policy regards protecting designated natural green space within the Neighbourhood Area from development. There are no impact pathw ays connecting European sites.
	adversely impact upon its special qualities will not be supported.	
Policy NE4 – Dark Skies	Development proposals that address light spillage and eliminate all unnecessary forms of artificial outdoor lighting by ensuring that good lighting management and design is applied throughout the Neighbourhood Plan Area will be supported. Development proposals that involve external lighting will only be permitted where it can be demonstrated that they are required for safety, security or community reasons and where the design minimises light spillage. Applicants are required to demonstrate that they meet or exceed the Institute of Lighting Professionals guidance and other relevant standards or guidance for lighting. Where street lighting and the lighting of residential dw ellings or businesses is proposed, Proposals will be supported that include environmentally efficient lighting that is sympathetic in design (for example, dow n lighting) and limited where adjacent to the countryside, the designated historic assets and the protected natural habitats and features identified in Policy NE2.	No HRA Implications This policy regards protecting dark skies, reducing light spill from new developments. There are no impact pathw ays connecting European sites.
Policy HD.1 Housing Provision	 The Neighbourhood Plan will accommodate development, including 'windfalls' commensurate with Castle Acre's classification as a Key Rural Service Centre within the Local Plan settlement hierarchy. This Plan acknow ledges the approved development of 19 dw ellings betw een 2016 -2019 and provides for 11 new dw ellings to be constructed betw een 2020 and 2036 in the Neighbourhood Plan area. This need will be met through: The allocation of the follow ing sites for development: i. a) Land at Massingham Road (Site CA1) (17/02341/RMM), 16/02057/F and 19/00148/F) 19 dw ellings (2016-2019) b) Land betw een St James' Green and the Water Tow er (Site CA2) 7 dw ellings (2020-2036) 	 HRA Implications This policy allocates a quantum of housing within the neighbourhood plan at two sites. A total of 11 dw ellings. And acknow ledges the approved development of 19 dw ellings at the Massingham Road Site. Impact pathways linking to European sites include: Recreational pressure Water quality
	c) c) Giede Land off South Acre Road (Site CA3) 4 aweilings (2020-2036)	

	ii Small "windfall" sites and infill plots within the Development Boundary which	Water resources
	will come forward during the plan period but are not identified in the Plan.	Air pollution
	and	
	iii Conversions of existing buildings outside of the Castle Acre Development	
	Boundary in accordance with paragraph 79 of the NPPE 2019	
	The focus of new windfall development will be within the Castle Acre Development	
	Boundary as defined on MAP HD 1 below	
Site CA2 – Land	 The development of the site will accommodate about 7 dw ellings in total. 	
between St. James'	Three (or four) dw ellings will be open market housing to facilitate the	
Green and the Water	provision of four dw ellings available for shared equity purchase. The open	
Tower – 7 dwellings	market housing will be of three or four bedrooms and the shared equity	
	houses will be of two bedrooms and with priority given to residents and their	
	families living nearby.	
	b) b) Access to the site will either be from Massingham Road, north of the	
	Stone Barn or from Archer Lane.	
	c) The development will respect the current living conditions and amenity of	
	the residents of Massingham Road at the south west of the site. d) A new	
	hedgerow and tree-line will be planted along the northern boundary.	
Site CA3 – Glebe	a) The development of this site will provide for four two-bedroom starter homes	
Land off South Acre	with priority given to residents and their families living nearby.	
Road – 4 dwellings	b) Access to the site will be from South Acre Road	
	c) c) Existing trees on site to be retained.	
Policy HD.2 –	Encouragement will be given to a wide range of types of housing that meet local	No HRA Implications
Housing Size, Type	needs to enable a mixed and inclusive community.	
and Tenure	New developments will be expected to provide housing commensurate with the	This policy regards the size and type of housing to be provides. This
	housing needs of Castle Acre in accordance with the mix outlined in the Housing	is a design management policy and does not allocate a quantum of
	Needs Assessment 2019, unless compelling justification for an exception can be	residential development.
	provided.	
	Developments should provide:	There are no impact pathways connecting European sites.
	 Starter homes/first time buyers, of 1 and 2 bedrooms, 	
	• Adaptable, 'lifetime' homes,	
	 Affordable housing, specifically social and affordable rented, 	
	 Housing for older people (e.g. Retirement living housing/supported/sheltered 	
	housing, bungalows and retirement complexes),	
	Eco-friendly homes.	
	Support is given for maximising the delivery of affordable housing on all qualifying	
	sites in Castle Acre.	
Policy HD.3 – Design	All new development should be of high a quality, well designed and enhance the form	No HRA Implications
	and character of Castle Acre. Careful consideration should be given to the form,	
	character and setting of new development to reduce the risk of over dominance by	This policy regards the design of any development put forw ards and
	new development. Development within or adjacent to the settlement boundary should	does not allocate a quantum of residential development.

retain the rural character of the village and avoid creating hard urban fringes and reduce encroachment into the surrounding countryside	There are no impact pathways connecting European sites.
Small sites (up to 5 properties) dependent on need will be encouraged to reduce the	
massing and over dominance of new development	
a) Building Character: New development should respect the compact and	
uncrowed a character of Castle Acra Lise of repatitive building uniformity and	
layer for the active should be availed and careful consideration should be given	
to crientation, reaching the and change in order to create an interacting and	
anotherically placesing dovelopment, which enhances the overall village scane	
of Costle Acro New dovelopment, should have service over all village scape	
by castle Action new development should have called in egald to height,	
investigation and the massing and scale of existing development in the	
infredute area. Designs should draw upon detail from existing verhacular	
A second and take account of the Character Appraisal within the plan,	
Appendix 3.	
b) Building Materials: The use of traditional materials common in the parish	
(as identified in the character Appraisal, Appendix 3 and Policy $H = 3$),	
especially those sourced locally and of low ecological environmental impact,	
will be encouraged. Hoposais that promote the positive application of	
5.0.0.5 measures will be supported thus minimising the use of hard non-	
porous surraces.	
c) Building Detail: Architectural details should reflect and or complement	
those traditionally used within the village, see Policy n.es. Reference at the	
design stage should be made to the Character Appraisal [Appendix 3] work	
w itmin this plan.	
a) Landscaping: The landscaping of new development is crucial to now the	
development impacts upon both the surroundings and the Conservation	
Area and should be an integral part of any design proposal and should developed at an early store classical with	
developed at an early stage alongside/within the scheme. Native species will	
be encouraged together with measures designed to attract and benefit	
wilding interprovision of new nabitats, where appropriate, trees and	
hedgelow's used as structural landscaping and boundary treatments should be subject to a preservation order and/or a replanting condition in the first	
be subject to a preservation order and/or a replanting condition in the first	
Dwelling Amenity: Development proposals for new dwellings should	
nrovide.	
i Sufficient private amenity space to meet the needs of new	
residents such as raridan space which should be at least equal to	
the cubic footprint of the dwelling.	
ii Resident access to the read garden without going through the	
house.	
iii Off street vehicular parking for residents and visitors; and	
in. On street venicular parking for residents and visitors, and,	

iv. Ancillary storage for refuse and recycling.

	New development should not be harmful to the living conditions of the residence of adjacent properties. The provision of high-speed internet connections is encouraged.	
	f) Building Style: a range of high quality traditional and more innovative contemporary designs will be encouraged.	
Policy TT.1 – Visitor Car Parking	Support will be given to proposals that help to relieve traffic congestion in the village centre and/or provide solutions to existing parking problems. Particular support is given for creation of new designated visitor parking off Priory Lane, that would free up parking spaces in the village centre and would help reduce the visual dominance of car parking on the historic village core and Conservation Area. (See Map TT.1 below)	No HRA Implication This policy regards car parking for visitors of residents within the village centre.
Policy TO.1 – Protecting Existing Tourism and Community Facilities	 Proposals for change of use involving a potential loss of an existing tourism or community facility or business, will only be supported where it can be demonstrated that: a) Adequate other facilities offering the same service exist within a reasonable walking distance of the majority of residents, to meet visitor and local needs, or b) There is no reasonable prospect of continued viable use and this can be demonstrated through: i. Tw elve months of marketing in appropriate publications, for the permitted and similar uses, using an appropriate agent; and ii. Confirmation that it has been offered on a range of terms (including price) agreed to be reasonable on the advice of an independent qualified assessor. Tourism and Community Facilities Proposals to improve existing tourism and community facilities will be supported. 	HRA Implications This policy relates to the provision of upgraded tourist facilities. A potential increase in tourism in the area could lead to increased recreational pressure on European sites within the core catchment area. In addition, increased tourism to the area has the potential to increase air pollution around the European sites.
	Upgraded facilities should help retain the character of Castle Acre and not adversely affect Historic and Natural Environments or the Conservation Area. Proposals should not detract from the amenity of local residents or result in an unacceptable increase in traffic generation or lead to an increase in on street parking.	
Policy BU.1 – Business Development	To pursue with the landow ner a change of use to existing buildings or plots on the following site at Manor Farm (as show n on Map BU.1 below). Development would meet the employment needs of the local populations through the provision of accommodation to support the provision of the following small scale initiatives: i) Home based and live w ork units ii) Small start-up or incubator units iii) Accommodation for office facilities or training facilities. Proposals that would result in the conversion of an existing building are particularly supported.	HRA Implications This policy relates to the provision of new business development. The policy supports development of business accommodation and home based and live w ork units, implying a residential component in addition to business development. Impact pathw ays linking to European sites include: • Recreational pressure
		Water quality Water resource Air pollution

Appendix C Figures



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