Land South of Salhouse Road, Sprowston

Environmental Statement
Volume 2
March 2016
6 ECOLOGY AND NATURE CONSERVATION

6.1 Introduction

6.1.1 This chapter of the ES assesses the likely levels of significant effects of the proposals in terms of Ecology and Nature Conservation and incorporates a summary of the Ecological Baseline Assessment, which is included as Appendix 6.1 ES Appendices Volume 3. A document to inform a Habitats Regulation Assessment has also been prepared and can be found in Appendix 6.2 ES Appendices Volume 3.

6.1.2 The chapter describes the assessment methodology; the baseline conditions at the Site and its surroundings; the likely significant environmental effects; the mitigation measures required to prevent, reduce or offset any significant adverse effects; and the likely residual effects after these measures have been employed. This chapter has been prepared by Aspect Ecology.

6.1.3 The scope of the assessment is largely focused on the Site itself, although consideration has been given to ecological features within the Site surrounds. Notably, the desktop study has included a search for ecological designations up to 2km from the Site boundary, and extended to search for international designations within 15km, whilst the assessment is informed by ecological survey of the entire Site.

6.2 Planning Policy Context

Policy Background

National Planning Policy

6.2.1 Guidance on National Policy for biodiversity and geological conservation is provided within the National Planning Policy Framework (NPPF), published by the Department for Communities and Local Government (DCLG) in March 2012. The NPPF confirms the Government's commitment to conserving and enhancing the natural and local environment through the planning system, including specific reference to maintenance and enhancement of biodiversity.

6.2.2 The NPPF requires local authorities to fully consider the effect of planning decisions on biodiversity and geodiversity, and ensure that appropriate weight is attached to statutory nature conservation designations, protected species and biodiversity, and geological interests within the wider environment. It also considers the potential biodiversity and geological conservation gains which can be secured within developments, including the use of planning obligations.

6.2.3 National policy therefore implicitly recognises the importance of biodiversity and that with sensitive planning and design, development and conservation of the natural heritage can co-exist and benefits can, in certain circumstances, be obtained.

Local Planning Policy

6.2.4 The Joint Core Strategy (JCS) for Broadland, Norwich, and South Norfolk, adopted in January 2014, and produced by the Greater Norwich Development Partnership (of which Broadland District Council is a member), sets out the over-arching strategy for growth across Norwich, Broadland and South Norfolk. It identifies key locations for growth and sets out policies to ensure future development is sustainable. In terms of ecology, the key policy is Policy 1 "Addressing climate change and protecting environmental assets". Within this policy the most relevant points are:
• “All new developments will ensure that there will be no adverse impacts on European and Ramsar designated Sites and no adverse impacts on European Protected Species in the area;
• They will provide for sufficient and appropriate local green infrastructure to minimise visitor pressures;
• Minimise fragmentation of habitats and seek to conserve and enhance existing environmental assets;
• Contribute to providing a multi-functional Green Infrastructure network, including open space, wildlife resources and links between them, both off-Site and as an integral part of the development”.

6.2.5 The strategy contains an allocation for the North East Growth Triangle (NEGT). The Site falls entirely within the boundaries of the defined NEGT, wholly within allocation GT7 of the Area Action Plan (AAP), see below.

_Growth Triangle Area Action Plan_

6.2.6 An Area Action Plan (AAP) is being produced by the Council, which will set out how the NEGT should develop over the next 15 years and beyond. Eventually the AAP will become part of the planning policies for Broadland.

6.2.7 The Council submitted the Area Action Plan to the Secretary of State for independent examination in February 2015. A public hearing relating to the submitted plan then took place between 21st and 23rd July 2015. As requested by the Inspector, the Council is now consulting on further possible modifications, following the public hearing.

_Sprowston Neighbourhood Plan_

6.2.8 The Localism Act, which received Royal Assent on 15 November 2011, introduced powers for local communities to produce a new type of community-led plan known as a Neighbourhood Plan. These plans will also form part of the Development Plan setting out policies and allocating Sites for development. The Site lies along the southern boundary of Sprowston Parish and as such falls within the area covered by the Sprowston Neighbourhood Plan, adopted in 2014.

_Green Infrastructure Studies_

6.2.9 In 2007 the Greater Norwich Development Partnership published a Green Infrastructure Strategy of the JCS area to provide a strategic level assessment of GI and a future vision. The strategy identified existing core areas of GI, urban and fringe action areas where new GI could be delivered/existing GI improved, and priority links which would join these areas. Strategic areas were identified where there is potential to create or enhance Priority Habitats and wetland areas.

6.2.10 Following this, a more detailed Delivery Plan was developed in 2009, which focussed on proposed areas of growth around south west and north east Norwich.

_National and Local Biodiversity Action Plans (BAPs)_

6.2.11 The UK Biodiversity Action Plan, published in 1994, was the UK Government’s response to signing the Convention on Biological Diversity (CBD) at the 1992 Rio Earth Summit. This has now been replaced by the new UK post-2010 Biodiversity Framework which focuses on the 4 individual countries of the United Kingdom and Northern Ireland.

6.2.12 Within England, the latest biodiversity strategy is entitled, ‘Biodiversity 2020: A strategy for England’s wildlife and ecosystem services’, published by Defra on 19 August 2011 with a

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3 The Landscape Partnership (2009) Greater Norwich Green Infrastructure Delivery Plan
progress update provided in July 2013. This provides a comprehensive picture of how we are implementing our international and EU commitments and sets out the strategic direction for biodiversity policy for the next decade.

6.2.13 The approach is informed by the list of species and habitats of 'Principal Importance', identified in accordance with Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 which largely reflects those species and habitats previously listed under the UK Biodiversity Action Plan (BAP) that occur in England.

6.2.14 A number of local BAPS have also been produced, identifying priorities and targets for action at a local level. This includes the Norfolk Biodiversity Action Plan, implemented by the Norfolk Biodiversity Partnership.

6.2.15 Reference to “Priority Habitats” and “Priority Species” (i.e. those listed in accordance with S41 or the NERC Act) and to habitats and species identified in local BAPs are made where relevant in the following sections of this chapter.

Discussion

6.2.16 The policies outlined above have been taken into account during the design of the Proposed Development, when considering mitigation and enhancement measures, with features and species of nature conservation interest protected and enhanced where possible. These measures are detailed in the relevant sections of this report.

Key Legislation

6.2.17 The applicable legislative framework for ecology and nature conservation is summarised as follows:

- The Conservation of Habitats and Species Regulations, 2010 (as amended);
- Wildlife and Countryside Act, 1981 (as amended);
- The Natural Environment and Rural Communities Act, 2006;
- The Countryside and Rights of Way Act, 2000;
- Town and Country Planning (Environmental Impact Assessment) Regulations, 2011;
- The Hedgerows Regulations, 1997;
- The Protection of Badgers Act, 1992; and

6.2.18 Discussion of this legislation is provided in relation to particular ecological features and fauna in the Ecological Baseline Assessment (see Appendix 6.1).

6.3 Assessment Methodology and Significance Criteria

6.3.1 The methodology utilised for the survey work can be split into three main areas: a desktop study, habitat survey and faunal surveys (undertaken by Practical Ecology). This is summarised below and detailed in the Ecological Baseline Assessment, Appendix 6.1.

Desktop Study

6.3.2 In order to compile background information on the Site and its immediate surroundings, Norfolk Biodiversity Information Service (NBIS) was contacted. Information received from NBIS is discussed in the text and reproduced, where appropriate in Appendix 6.1. Information on statutory designated sites was obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC) database, which utilises data provided by Natural England. Other
data sources checked as part of the desktop study included the Freshwater Habitats Trust database of Priority Ponds or Important Areas for Ponds, and the Woodland Trust database of notable, veteran and ancient trees. Further detail is provided in the Ecological Baseline Assessment at Appendix 6.1.

**Habitat Survey**

6.3.3 Survey work carried out in July 2014 was based on Phase 1 Habitat Survey methodology⁴, as recommended by Natural England, whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential which require further survey. Any such areas identified can then be examined in more detail through Phase 2 surveys. This method was extended, in line with the Guidelines for Preliminary Ecological Appraisal⁵ to record details on the actual or potential presence of any notable or protected species or habitats.

6.3.4 The habitat survey covered all land within the GS7 land allocation and as such covered a wider area than the Site boundary.

**Faunal Surveys**

6.3.5 General faunal activity, such as mammals or birds observed visually or by call during the course of the surveys was recorded during all visits to the Site. Particular attention was also paid to the potential presence of any protected, rare or notable species.

6.3.6 Specific Phase 2 surveys were undertaken in respect of bats (2014 and 2015), Badger *Meles meles* (2014), and Great Crested Newt *Triturus cristatus* (2014), as set out at Table 6.1 below. Further detail on survey methodologies is provided in the Ecological Baseline Assessment at Appendix 6.1.

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Table 6.1: Summary of Phase 2 faunal surveys undertaken in the survey area

<table>
<thead>
<tr>
<th>Faunal Group</th>
<th>Survey Methodology</th>
<th>Date of surveys</th>
<th>Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bats (building investigation)</td>
<td>All buildings within or adjacent to the Site were inspected (externally and internally) and assessed for their potential to support roosting bats. Potential access points and roosting features were recorded such as slipped tiles, missing mortar, presence of roof voids etc.</td>
<td>June 2014.</td>
<td>Natural England Standing Advice: Bats; Bat Mitigation Guidelines (English Nature, 2004); Bat Surveys – Good Practice Guidelines (Bat Conservation Trust, 2012)</td>
</tr>
<tr>
<td>Bats (tree investigation)</td>
<td>Any trees supporting particular features likely to be of value to bats, such as splits, cracks, rot holes, coverings of ivy, peeling bark or similar, were recorded. The potential for the trees to support roosting bats was ranked in accordance with the criteria set out in the Bat Conservation Trust guidelines.</td>
<td>June 2014.</td>
<td>Natural England Standing Advice: Bats; Bat Mitigation Guidelines (English Nature, 2004); Bat Surveys – Good Practice Guidelines (Bat Conservation Trust, 2012)</td>
</tr>
<tr>
<td>Bats (manual activity surveys)</td>
<td>A series of dusk activity surveys were undertaken across the Site, to gather information on the use of the Site by foraging and commuting bats. This involved surveyors walking a predetermined transect route and recording all bat activity. The transect route was designed to cover all the habitat types within the survey area. Ten Listening Points (LPs) were incorporated into the transect where surveyors paused along the route for five minutes. In addition a series of fixed point surveys were undertaken using static detectors. These were deployed in five locations.</td>
<td>Walked Transects: once per month in Sept 2014, June 2015 and July 2015. Remote Static surveys: Five nights per month during Sept 2014, and May-Aug 2015</td>
<td>Natural England Standing Advice: Badger; Occasional Publication No. 9 – Surveying Badgers (Mammal Society, 1989); Density and distribution of Badgers in south-west England – a predictive model. Mammal Review 18: 11-23 (Thornton, 1988)</td>
</tr>
<tr>
<td>Great Crested Newt</td>
<td>Accessible waterbodies within 650m of the Site were assessed for their potential to support Great Crested Newts using the Habitat Suitability Index methodology. Following this, four waterbodies were subject to presence/likely absence survey in accordance with guidance. Where Great Crested Newt were recorded, further survey was undertaken to assess the size of the population.</td>
<td>Habitat Suitability Index: May 2014. Presence/likely absence survey: May and June 2014.</td>
<td>Oldham RS, Keeble J, Swan MJS &amp; Jeffcote M (2000) ‘Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus)’. Herpetological Journal 10 (4), 143-155 ‘Great Crested Newt Mitigation Guidelines’ English Nature (2001)</td>
</tr>
</tbody>
</table>

**Evaluation of Ecological Baseline**

6.3.7 The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental
Management (CIEEM, 2016)6. In evaluating ecological features and resources the following key factors are taken into account:

6.3.8 **Geographic Frame of Reference**: The value of an ecological feature or resource is determined within a defined geographical context using the following frame of reference:

- International;
- National;
- Regional;
- County (or Metropolitan);
- District (or Unitary Authority, City or Borough);
- Local (or Parish); and
- At the Site level only.

6.3.9 **Sensitivities**: To allow comparison with other chapters, each receptor will also be assigned a level of sensitivity to change, based on the level of value set out above (together with consideration of any particular sensitivities to damage or disturbance), broadly assessed as follows:

<table>
<thead>
<tr>
<th>Geographical frame of reference</th>
<th>Sensitivity of receptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>International</td>
<td>Very high</td>
</tr>
<tr>
<td>National</td>
<td>High</td>
</tr>
<tr>
<td>Regional</td>
<td>High-medium</td>
</tr>
<tr>
<td>County (or Metropolitan)</td>
<td>Medium</td>
</tr>
<tr>
<td>District (or Unitary Authority, City or Borough)</td>
<td>Medium</td>
</tr>
<tr>
<td>Local (or Parish); and</td>
<td>Low</td>
</tr>
<tr>
<td>At the Site level only</td>
<td>Very low</td>
</tr>
</tbody>
</table>

6.3.10 **Biodiversity Value: Habitats**. In certain cases, the value of a habitat can be measured against known selection criteria, e.g. SAC selection criteria, ‘Guidelines for the selection of biological SSSIs’ and the Hedgerows Regulations 1997. However, for the majority of commonly encountered sites, the most relevant habitat evaluation will be at a more localised level and based on relevant factors such as antiquity, size, species-diversity, potential, naturalness, rarity, fragility and typicalness. The ability to restore or re-create the habitat is also an important consideration, for example in the case of ancient woodland.

6.3.11 Regard should also be given to habitats listed as priorities for conservation in accordance with Section 41 of the Natural Environment and Rural Communities Act (NERC) 2006, so called ‘Priority Habitats’, as the likely effect of a development on such habitats is a potential material consideration within the planning process. Certain habitats may also be listed within regional or

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Local Biodiversity Action Plans (LBAPs), albeit the listing of a particular habitat under a BAP does not in itself imply any specific level of importance.

6.3.12 **Biodiversity Value: Species.** The assessment of the value of a species is based on factors including distribution, status, historical trends, population size and rarity. With respect to rarity, this can apply across the geographic frame of reference and particular regard is given to populations where the UK holds a large or significant proportion of the international population of a species.

6.3.13 Regard should also be given to species listed as priorities for conservation in accordance with Section 41 of the NERC Act 2006, so called ‘Priority Species’. Certain species may also be listed within regional or local BAPs, albeit as with habitats the listing of a particular species under a BAP does not in itself imply any specific level of importance.

6.3.14 **Secondary or Supporting Value.** Some habitats or features that are of no intrinsic biodiversity value may nonetheless perform an ecological function, e.g. as a buffer. In addition, certain features of the landscape which by virtue of their linear or continuous nature (e.g. rivers) or their function as ‘stepping stones’ (e.g. small woods) may be of value for the migration, dispersal and genetic exchange of wild species.

**Assessment of Impacts and Significance**

6.3.15 The methodology utilised for assessing ecological impacts is based on the guidance contained within the ‘Guidelines for Ecological Impact Assessment in the UK and Ireland’ (CIEEM, 2016) and the ‘Biodiversity – Code of practice for planning and development’ British Standard (BS 42020:2013), as described below.

6.3.16 **Potential Effects.** Using the agreed parameters of the scheme, likely effects are determined with reference to aspects of the ecological structure and function on which the feature or resource depends. This includes factors such as the available resources, environmental and ecological processes, human influences, historical context, ecological relationships, ecological role or function and ecosystem properties. Based on this context, the nature of the impact is characterised and considered under the following parameters:

- Positive or negative – will the activity lead to an adverse, beneficial or neutral impact;
- Extent – geographical scale over which the impact will occur;
- Magnitude – The size, amount, intensity and volume of impact, e.g. the amount of habitat lost or percentage decline in population.
- Duration – the time for which the impact is expected to last prior to recovery or replacement, i.e. short-term or long-term, permanent or temporary;
- Timing and frequency – some changes may only cause an impact if they coincide with critical life-stages or seasons, whilst frequent events may cause a greater effect than a single event;
- Reversibility – an impact may be irreversible in that recovery is not possible within a reasonable timescale or there is no reasonable chance of action being taken to reverse it.

6.3.17 **Significance of the Impact.** The nature of the impact is then used in conjunction with ‘conservation status’ to determine whether an impact on a habitat or species is likely to be ecologically ‘significant’. This is assessed in terms of the relevant frame of geographical reference (i.e. international, national, regional, county/metropolitan, district/unitary authority/city/borough, local/parish or at the Site level as defined above). If an impact is found to not be significant at the level at which the resource or feature has been valued, it may be significant at a more local level.
In terms of determining significance, the key consideration is whether the impact will affect the "integrity" of the feature, or move the condition of the feature towards or away from favourable conservation status. Conservation status is defined as:

- For habitats – The sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and its typical species within a given geographical area; and

- For species – The sum of the influences acting on the species concerned that may affect its abundance and distribution within a given geographical area.

In the case of impacts on designated sites, e.g. SSSI’s, SPA’s, SAC’s, consideration should be given to whether the project is likely to affect the site’s conservation objectives, the conservation status of species or habitats for which the site is designated, or affect the condition of the site or its interest/qualifying features.

Where the integrity of the favourable conservation status of a habitat or species is undermined, the impact could be adverse and significant. A significant beneficial impact could be defined as one that prevents or slows an existing decline in the integrity of the favourable conservation status of a habitat or population as much as one that permitted a population or habitat area to increase.

In accordance with the CIEEM guidance and EIA Regulations, the detailed assessment of impacts should be focused on those ecological resources for which a significant impact is likely to be generated. Therefore, ecological features or resources should only be selected for assessment where that feature or resource is sufficiently valuable (with value determined as described above), in terms of biodiversity, for an impact to be significant. The relevant decision-making level in the present case is the District level. Therefore any impact on ecological features or resources of value at or above the District level would be considered potentially significant.

Protected Species. Specific species have protection under European or national legislation. It is essential to determine whether any protected species are present on the Site and if there is the potential for a breach of legislation. If protected species are present/likely present within or adjacent to the Site then an assessment of impacts on these ecological features will be conducted regardless of the populations’ geographic scale or value.

Limitations of the Assessment

All of the botanical species that occur in each habitat would not necessarily be detectable during survey work carried out at any given time of year, since different species are apparent during different seasons. However, the Phase 1 survey was undertaken within the accepted season for such survey, while the survey area was visited on a number of further occasions (for example when conducting the Phase 2 surveys) ensuring information on any new plant species could be recorded. It is therefore considered that the survey work has allowed a robust assessment of habitats and botanical interest across the Site.

The specific Phase 2 surveys were undertaken at the appropriate time of year and during suitable weather conditions to an appropriate level of survey effort. Access could not be gained to one of the off-Site ponds for Great Crested Newt surveys. However all of the on-site ponds were fully surveyed and this is discussed further in the results section. The surveys undertaken are therefore considered to allow a robust assessment of the ecological interest of the Site to be made.

Baseline Conditions

Ecological Designations

Ecological designations that occur within the local area are described in detail within the Ecological Baseline Assessment at Appendix 6.1 and summarised below at Table 6.3.
Table 6.3. Statutory and non-statutory designations situated within the local vicinity of the Site

<table>
<thead>
<tr>
<th>Name</th>
<th>Status</th>
<th>Description</th>
<th>Approx. distance and direction from Site</th>
<th>Level of value</th>
<th>Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>International Designations within 15km of the Site</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Broads / Broadland¹</td>
<td>SAC/ SPA²</td>
<td>Designated on the basis of a mosaic of valuable wetland habitats supporting internationally important species of numerous taxa including birds, mammals, invertebrates, and plants.</td>
<td>5.4km east</td>
<td>International</td>
<td>High</td>
</tr>
<tr>
<td>River Wensum</td>
<td>SAC</td>
<td>A watercourse passing through plains and montane habitats considered to be one of the best areas in the UK for its Crow-foot vegetation communities. The site supports nationally important populations of Desmoulin's Whorl-snail Vertigo moulinisiana, and White-clawed Crayfish Austropotamobius pallipes.</td>
<td>6.8 km west</td>
<td>International</td>
<td>High</td>
</tr>
<tr>
<td>Norfolk Valley Fens</td>
<td>SAC</td>
<td>A series of wet heath and fen fragments associated with alluvial forests and calcareous grasslands. The site is considered to be one of the best areas in the UK for alkaline fens, alluvial forests, Desmoulin's Whorl Snail and Narrow-mouthed Whorl Snail Vertigo angustior.</td>
<td>13.5 km north-west</td>
<td>International</td>
<td>High</td>
</tr>
<tr>
<td><strong>Other Statutory Designations within 2 km of the Site</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mousehold Heath</td>
<td>LNR¹⁰</td>
<td>Remnant heathland with a mixture of Oak and Birch woodland, scrub, acidic grassland, and remnant heath with a large seasonal pond, supporting a variety of insects and Common Lizard Zootoca vivipara.</td>
<td>1.7 km West</td>
<td>County</td>
<td>Medium</td>
</tr>
<tr>
<td><strong>Non-statutory Designations (within 2 km of the Site)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Racecourse Plantation / Thorpe Woodland</td>
<td>CWS¹¹</td>
<td>The site is a commercial forest and predominantly a mosaic of semi-natural, mixed and coniferous woodland, divided into compartments by a network of rides and paths. The site has been known in the past to support Great Crested Newts in a pond 350m from the Site, though it is not known how recently this was.</td>
<td>Adjacent to southern Site boundary</td>
<td>County</td>
<td>Medium</td>
</tr>
<tr>
<td>Paine’s Yard Wood and The Owlery</td>
<td>CWS</td>
<td>Varied woodlands of largely native species and of varied structure, including deadwood and stored coppice. The Owlery is a small area of woodland to the north of Paine’s Yard and is linked to it by a hedge.</td>
<td>420 m north east</td>
<td>County</td>
<td>Medium</td>
</tr>
<tr>
<td>Belmore and Brown’s Plantations</td>
<td>CWS</td>
<td>The site is broadly divided into conifer plantations, open, mature broadleaved woodland, dense regenerating scrub and a small number of ponds.</td>
<td>560 m south</td>
<td>County</td>
<td>Medium</td>
</tr>
<tr>
<td>Tollshill Wood</td>
<td>CWS</td>
<td>Ancient, broadleaved and semi-natural woodland with a small proportion of exotic conifers interspersed throughout.</td>
<td>1.6 km north</td>
<td>County</td>
<td>Medium</td>
</tr>
</tbody>
</table>

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7 The Broads SAC and Broadland SPA and Ramsar Sites have contiguous boundaries and are therefore hereafter jointly referred to as “The Broads designations” where relevant
8 Special Area for Conservation
9 Special Protection Area
10 Local Nature Reserve
11 County Wildlife Site
### Name

<table>
<thead>
<tr>
<th>Name</th>
<th>Status</th>
<th>Description</th>
<th>Approx. distance and direction from Site</th>
<th>Level of value</th>
<th>Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mousehold Heath and</td>
<td>CWS</td>
<td>This is a large and complex site of former heathland, now mostly covered by recent woodland and large patches of scrub, partly contiguous with Mousehold Heath LNR. Some patches of acid grassland and heath remain.</td>
<td>1.7 km west</td>
<td>County</td>
<td>Medium</td>
</tr>
</tbody>
</table>

### Ancient Woodland

6.4.2 The closest identified ancient woodland is Bulmer Coppice Ancient Replanted Woodland (ARW) located 15m north of the Site on the northern side of Salhouse Road. Bulmer Coppice is 7.54 ha in size. It primarily comprises conifers with a small area of deciduous woodland Priority Habitat in the northern portion. The woodland forms part of a large complex within the Rackheath Hall Estate, including Paine’s Yard Wood CWS, Fir Covert, March Covert and Pig’s Wood.

6.4.3 Ancient woodland is an irreplaceable resource and as such is of District value.

6.4.4 The next nearest area of ancient woodland is Tollshill Wood ARW and CWS, located 1.6 km north of the Site.

### Habitats and Ecological Features

6.4.5 A full description of habitats and ecological features is given in the Ecological Baseline Assessment at Appendix 6.1. A summary of the habitats present and an evaluation of their ecological value is given in Table 6.4 below, whilst the location of these habitats and ecological features, including species lists are represented within Annex 4661/2 of Appendix 6.1.

### Table 6.4: Summary and evaluation of habitats and ecological features present within and adjacent to the Site

<table>
<thead>
<tr>
<th>Habitat type</th>
<th>Description</th>
<th>Ecological value</th>
<th>Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semi-improved Neutral Grassland</td>
<td>Several of the grassland fields comprise Semi-improved Neutral Grassland including a central field which is currently managed through horse-grazing. Other Semi-improved Neutral Grassland fields within the Site have been allowed to grow long and tussocky at the time of survey. In general terms, the neutral grasslands within the Site are dominated by common grass species such as Cock’s-foot <em>Dactylis glomerata</em>, Yorkshire-fog <em>Holcus lanatus</em>, and Rough Meadow-grass <em>Poa trivialis</em>, with herb species comprising common plants such as Cow Parsley <em>Anthriscus sylvestris</em>, and Herb Robert <em>Geranium robertianum</em>.</td>
<td>Low</td>
<td>Local</td>
</tr>
<tr>
<td>Habitat type</td>
<td>Description</td>
<td>Ecological value</td>
<td>Sensitivity</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Semi-improved Acid Grassland</td>
<td>The most westerly field comprises Semi-improved Acid Grassland that was apparently lacking in regular management at the time of survey, having been allowed to grown long and tussocky in nature. In general terms, this area of grassland was similar in species composition to the Semi-improved Neutral Grassland, with additional species such as Sheep's Sorrel <em>Rumex acetosa</em> and Gorse <em>Ulex europaeus</em> that have a mild preference for acidic soils, and as such is not considered to be true acid grassland.</td>
<td>Low</td>
<td>Local</td>
</tr>
<tr>
<td>Improved Grassland</td>
<td>The most easterly field comprises Improved Grassland which was grazed by horses to a short sward at the time of survey.</td>
<td>Negligible 'Site only'</td>
<td>Very low</td>
</tr>
<tr>
<td>Broadleaved Plantation</td>
<td>Broadleaved Plantation woodland is present in two places within the Site, adjacent to and slightly within the south-eastern tip of the spur extending towards south-east, and within the eastern portion of the Site, south of the Improved Grasslands. These woodland areas comprise young to semi-mature trees of a drawn-up nature, such that there is little in the way of an understorey throughout. Canopy species include Cherry <em>Prunus</em> sp., Hornbeam <em>Carpinus betulus</em>, Oak <em>Quercus robur</em>, Beech <em>Fagus sylvatica</em>, and Sycamore <em>Acer pseudoplatanus</em>.</td>
<td>Low-moderate</td>
<td>Local</td>
</tr>
<tr>
<td>Mixed Plantation</td>
<td>A small area of Mixed Plantation woodland is present adjacent to the eastern side of the Semi-improved Acid Grassland. The canopy within this woodland is dominated by semi-mature Scots Pine <em>Pinus sylvestris</em> and there is little in the way of understorey due to the dense tree cover.</td>
<td>Low</td>
<td>Local</td>
</tr>
<tr>
<td>Scattered Trees</td>
<td>A number of trees were recorded within the Site including Conifers, Silver Birch <em>Betula pendula</em>, Oak, Sycamore, and Sweet Chestnut <em>Castanea sativa</em> associated with the grassland fields and areas of Tall Ruderal Vegetation.</td>
<td>Low-moderate</td>
<td>Local</td>
</tr>
<tr>
<td>Tall Ruderal Vegetation</td>
<td>Tall Ruderal Vegetation is present throughout the Site largely limited to field boundaries Species recorded include Creeping Thistle <em>Cirsium arvense</em>, Rosebay Willowherb <em>Chamerion angustifolium</em>, Common Nettle <em>Urtica dioica</em> subsp. <em>dioica</em> and Prickly Lettuce <em>Lactuca serriola</em>.</td>
<td>Negligible 'Site only'</td>
<td>Very low</td>
</tr>
<tr>
<td>Scrub</td>
<td>Dense Scrub is present within the north of the Site in a field of Semi-improved Neural Grassland, around Building 16 and in the south of the Site adjacent to the Racecourse Plantation CWS. Scattered scrub is also present in the form of Gorse bushes within the field of Semi-improved Acid Grassland. The Dense Scrub within the Site comprises close-growing Bramble <em>Rubus fruticosus</em> agg., Hawthorn <em>Crataegus monogyna</em>, Elder <em>Sambucus nigra</em>, and young trees such as Sycamore and Willow <em>Salix</em> sp.</td>
<td>Low</td>
<td>'Site only'</td>
</tr>
<tr>
<td>Hedgerows</td>
<td>A number of species-poor hedgerows are present on the boundaries of the Site and demarcate some of the fields within the Site. The majority of hedgerows comprise Hawthorn, Elder, Blackthorn <em>Prunus spinosa</em>, and Hazel <em>Corylus avellana</em>. A number of the hedgerows contain standard trees such as Oak. These qualify as UK Priority Habitat and are listed on the Norfolk BAP, and as such have elevated ecological value. However they are unlikely to qualify as 'important' under the ecology and landscape criteria of the Hedgerow Regulations 1997.</td>
<td>Moderate</td>
<td>District</td>
</tr>
</tbody>
</table>

A single hedgerow in the centre of the Site comprises Leyland Cypress *Cupressocyparis leylandii*, and as such this does not qualify as Priority Habitat.
<table>
<thead>
<tr>
<th>Habitat type</th>
<th>Description</th>
<th>Ecological value</th>
<th>Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ornamental Planting</td>
<td>Ornamental Planting is present within a garden adjacent to Salhouse Road north of Building B9. The ornamental planting comprises Amenity Grassland lawn and non-native and/or planted species such as Lime <em>Tilia x europaea</em>, and Apple <em>Malus</em> sp.</td>
<td>Negligible</td>
<td>'Site only'</td>
</tr>
<tr>
<td>Pond</td>
<td>A single pond is present within the Site boundary located within the north of the Semi-improved Acid Grassland field (Pond 1). Another pond (a close-set series of waterbodies labelled Ponds 2, 3, and 6) is present immediately to the south of the Site, within the Broadleaved Plantation Woodland. Ponds are UK Priority Habitat however the pond identified within the Site does not meet the criteria to qualify. However, Ponds are listed on the Norfolk BAP and as such are of elevated ecological value.</td>
<td>Moderate</td>
<td>District</td>
</tr>
<tr>
<td>Buildings and Hardstanding</td>
<td>A number of buildings are present within the Site (B1-B21). The buildings and hardstanding comprise a mixture of stables, corrugated metal storage buildings, residential buildings and buildings associated with a car dealership adjacent to Salhouse Road and associated access lanes and car-parking areas.</td>
<td>Negligible</td>
<td>'Site only'</td>
</tr>
</tbody>
</table>

**Invasive Plant Species**

6.4.6 During the course of the survey work undertaken, stands of Giant Hogweed *Heracleum mantegazzianum*, Japanese Knotweed *Fallopia japonica*, and Indian Balsam *Impatiens glandulifera* were recorded, largely associated with the area of Ornamental Planting located at T3, T4, and T5 on the Plan within Appendix 6.1. These three species are listed on the most recent version of Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

**Faunal Use of the Site**

6.4.7 A range of faunal surveys were undertaken during 2014 and 2015 in respect of bats, Badger, and Great Crested Newt. In addition, general observations were made of any faunal use of the Site with particular attention paid to the potential presence of protected or notable species.

6.4.8 Full details of this survey work are included in the Ecological Baseline Assessment at Appendix 6.1, whilst a summary of the results is set out in Table 6.5 below.
Table 6.5: Summary and evaluation of faunal use of the Site

<table>
<thead>
<tr>
<th>Faunal species/group</th>
<th>Description</th>
<th>Ecological value</th>
<th>Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Bats (roosting)</strong></td>
<td>Low</td>
<td>Local</td>
</tr>
<tr>
<td></td>
<td>No evidence of roosting bats, or elevated potential or suitability for roosting bats was found in any of the buildings or trees inspected within the development footprint. Not all trees within the woodland areas were thoroughly inspected. However these areas will be almost entirely retained as part of the proposals. As such the site is unlikely to be of value for roosting bats.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Bats (foraging and commuting)</strong></td>
<td>Moderate</td>
<td>District</td>
</tr>
<tr>
<td></td>
<td>Activity was dominated by Common Pipistrelle, though of note are the frequent passes of foraging Barbastelle.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The surveys identified three key corridors across the Site which are being used by the local bat assemblage to cross between woodland parcels. Due to the number of species recorded, which include Priority Species (Barbastelle, Noctule, Soprano Pipistrelle and Brown Long-eared Bat) and Annex 2 species (Barbastelle), the Site is considered to be of elevated ecological value for commuting/foraging bats.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Badger</strong></td>
<td>Low</td>
<td>Local</td>
</tr>
<tr>
<td></td>
<td>A single entrance to an assumed outlier Badger sett was found within one of the broadleaved plantation woodlands within the Site (T1 within Annex 4661/2 of Appendix 6.1). A single dropping, broadly consistent in character with Badger droppings, was recorded outside this potential sett. A further two entrance setts (T2 within Annex 4661/2 of Appendix 6.1) were also recorded, although this showed no signs of recent use at the time of survey.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No signs of Badger foraging in, or commuting through, the Site were recorded. However, the woodlands, grasslands, and to a lesser extent tall ruderal and scrub habitats do provide potential foraging and commuting opportunities to Badger in the area.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Other Mammals</strong></td>
<td>Low</td>
<td>Local</td>
</tr>
<tr>
<td></td>
<td>No evidence of any other protected, rare or notable mammal species was recorded within the Site. Other mammal species likely to utilise the Site, such as Fox <em>Vulpes vulpes</em>, remain common in both a local and national context.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Faunal species/group

<table>
<thead>
<tr>
<th>Faunal species/group</th>
<th>Description</th>
<th>Ecological value</th>
<th>Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Great Crested Newt</strong></td>
<td>Evidence of breeding Great Crested Newt was recorded during the surveys within an off-site pond (Pond 4), however this is 620m south east of the Site.</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Great Crested Newt were noted formerly to have been present within Racecourse Plantation CWS adjacent to the Site although none were recorded here during the 2014 surveys. The date of the earlier record is unknown.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Based on the 2014 surveys, it is considered unlikely that Great Crested Newt are present within the Site.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Common Amphibians</strong></td>
<td>Common amphibians were recorded within a number of the ponds within the 500 m survey radius, including the on-site pond P1, which supports low numbers of Common Frog <em>Rana temporaria</em> and Smooth Newt <em>Triturus vulgaris</em>. The terrestrial habitats within the Site also offer potential foraging and sheltering opportunities for these species. It is also likely that Common Toad <em>Bufo bufo</em> (a Priority Species which is known from this survey and background records within the local area) makes use of terrestrial habitats within the Site. Nevertheless, such species are common and widespread and, as this survey revealed, more numerous in ponds within the surrounding area.</td>
<td>Low</td>
<td>Local</td>
</tr>
<tr>
<td><strong>Reptiles</strong></td>
<td>Three of the fields of Semi-improved Grassland within the Site were tussocky in nature and are considered to offer optimal habitat for reptiles. Other habitats in the Site with potential to support reptiles include tall ruderal vegetation, scrub, woodland, and (in the case of Grass Snake <em>Natrix natrix</em>) the pond.</td>
<td>Low</td>
<td>Local</td>
</tr>
<tr>
<td></td>
<td>Reptile survey is to be secured via planning condition in order to inform detailed design and any required mitigation measures. Given the habitats present, it is unlikely the Site would be of elevated value for any local reptile population given the surroundings are dominated by arable land, dense plantation and residential development.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Birds</strong></td>
<td>Habitats within the Site provide a range of nesting opportunities for common birds such as the woodlands and scrub, whilst grassland habitats may support ground-nesting species such as Skylark <em>Alauda arvensis</em>, which was recorded during the Extended Phase 1 survey, and is a Priority Species and Red Listed species.</td>
<td>Low</td>
<td>Local</td>
</tr>
<tr>
<td></td>
<td>A number of buildings within the Site also offer suitability for roosting/nesting Barn Owl <em>Tyto alba</em> although no evidence for this species was recorded. It is likely the Site supports a modest assemblage of common bird species, including farmland birds, and as such it not considered to be of elevated ecological value.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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12 It should be noted that the distance of Pond 4 to the Site is incorrectly measured as being 495m away in the Phase 1 Habitat Report and GCN report produced by a third party in Appendix 6.1. The correct distance is 620m. As such the recommendations within that GCN report (including further surveys and production of a Method Statement) are not considered to be required.
**Invertebrates**

No evidence for the presence of any protected, rare or notable invertebrate species was recorded within the Site. Habitat mosaics (such as the areas of tall ruderal/semi-improved grassland mosaics) and hedgerows and trees within the Site were assessed during the Extended Phase 1 survey to provide potential to support a range of common invertebrate species. Furthermore, the adjacent Ancient Replanted Woodland to the north and County Wildlife Site to the south may support valuable invertebrate fauna, which may make minor use of the Site.

Invertebrate survey is to be secured via planning condition in order to inform any species specific mitigation/enhancement measures, though overall it is considered unlikely the Site is of elevated value for invertebrates.

**Ecological value**

<table>
<thead>
<tr>
<th>Faunal species/group</th>
<th>Description</th>
<th>Ecological value</th>
<th>Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invertebrates</td>
<td></td>
<td>Low</td>
<td>Local</td>
</tr>
</tbody>
</table>

**Future Baseline**

6.4.9 In the absence of the proposals, and assuming current management practices continue, the baseline conditions within the Site are expected to remain relatively constant in the future. Furthermore, no specific information on likely changes in current management has been obtained. As such, no significant changes to the baseline are expected.

**Mitigation within the Submitted Design**

6.4.10 The scheme that is assessed in terms of likely significant effects has been developed following an iterative process of design, with a number of mitigation measures incorporated as part of the proposals. Particular measures incorporated in relation to ecology include:

- Provision of a green corridor along the southern boundary to buffer the built development from Racecourse Plantation CWS;
- Retention of key habitat areas within non-development areas, such as the on-Site pond, trees and the hedgerow network;
- Retention of key bat corridors with additional planting to buffer from the built development (and any associated lighting);
- Provision of green space and connective habitat around and across the Site in the form of green corridors of non-developed land between development areas.
- Provision of habitat creation and enhancement measures such as construction of Sustainable Drainage Systems (SuDS) to include attenuations ponds and a series of interconnecting swales.

**Identification of key impacts**

6.5.1 As described in Section 6.3 above, only ecological features of district level value or above, or where protected species are present/likely present have been included in the assessment of effects. Table 6.6 summarises the ecological baseline and identifies those features which are assessed in detail within this section.
Table 6.6: Summary and evaluation of faunal use of the Site

<table>
<thead>
<tr>
<th>Ecological feature</th>
<th>Geographic scale</th>
<th>Assessment of impacts</th>
<th>Comments if not assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Broads SAC, Broadland SPA Ramsar</td>
<td>International</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>River Wensum SAC</td>
<td>International</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Norfolk Valley Fens SAC</td>
<td>International</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Mousehold Heath LNR</td>
<td>County</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>County Wildlife Sites</td>
<td>County</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Ancient Replanted Woodland</td>
<td>District</td>
<td>Yes</td>
<td>All hedgerows are of District value and qualify as Priority Habitat, with the exception of the Leyland Cypress hedgerow in the centre of the Site which will not be considered further. Norfolk BAP Habitat.</td>
</tr>
<tr>
<td>Hedgerows</td>
<td>District</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Ponds</td>
<td>District</td>
<td>Yes</td>
<td>Do not meet Priority Habitat criteria, but listed on Norfolk BAP.</td>
</tr>
<tr>
<td>Invasive Plant Species</td>
<td>Detrimental</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Other Habitats</td>
<td>Local</td>
<td>No</td>
<td>All other on-Site habitats recorded are of local or ‘Site only’ value, being common and widespread. The grasslands present are species poor and the woodland areas are close planted plantations. Therefore a loss of habitat under the footprint of the built development would not result in any likely significant effects. Habitats of greater (but still local) interest such as the on-site pond, and the majority of hedgerows are to be retained.</td>
</tr>
<tr>
<td>Bats – Roosting</td>
<td>Local</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Bats – Foraging / Commuting</td>
<td>District</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Badger</td>
<td>Local</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Other Mammals</td>
<td>Local</td>
<td>No</td>
<td>Below District level value and no special legal protection</td>
</tr>
<tr>
<td>Great Crested Newts</td>
<td>Local</td>
<td>No</td>
<td>Recorded during surveys, however this was in a Pond more than 500m from Site and therefore unlikely to be affected by the proposals.</td>
</tr>
<tr>
<td>Common Amphibians</td>
<td>Local</td>
<td>Yes</td>
<td>Priority Species likely present within Site (Common Toad).</td>
</tr>
<tr>
<td>Reptiles</td>
<td>Local</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Birds</td>
<td>Local</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Invertebrates</td>
<td>Local</td>
<td>No</td>
<td>Likely to be below District level. Further survey will be undertaken to inform enhancement measures, which can then be tailored to the species recorded during the surveys.</td>
</tr>
</tbody>
</table>

**Ecological Designations**

The Broads Designations

6.5.2 **Potential Effects.** Effects on these designations during construction (such as dust deposition) are considered extremely unlikely given the distance of the Site 5.4km away. Potential operational effects are limited to those resulting from an increase in recreational pressure within the designations as a result of the increased number of new residents. This has been highlighted as a potential issue by Natural England and is considered in detail in a separate document13.

6.5.3 **Mitigation.** Within the separate document mitigation is proposed which would be brought forward through local policy and provision of on-Site and off-Site GI.

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Residual Effects. The document concludes that with mitigation measures in place no significant adverse effects are anticipated, and therefore an Appropriate Assessment is not required.

Norfolk Valley Fens SAC and River Wensum SAC

No effects are anticipated during construction or operation due to the distance of the designations from the Site, and its location outside of the River Wensum catchment area.

Mousehold Heath LNR

Effects during construction (such as dust deposition) are considered unlikely given the distance of the Site 1.7km away. Potential operational effects are limited to those resulting from an increase in recreational pressure from new residents, such as trampling, littering, dog fouling and fly tipping.

The LNR is situated in the Norwich urban fringe and as such is bounded by residential development, a golf course and allotments. Being an LNR, the site is promoted for public recreation, and there are several car parks, including a main car park with toilets and a café, and a promoted "Mousehold Heath Trail". Public events are held at the Site including concerts and guided walks. Maintenance works are carried out by a variety of local volunteer groups.

The proposed outline development of circa 803 dwellings would result in an increase in 1855 residents (based on an average occupancy of 2.31 persons per dwelling). Given the distance, the LNR is more likely to be visited by any new residents by car rather than on foot, and as such the number of people visiting by car at any one time would be limited by number of existing parking spaces provided.

Overall, given the distance from the Site, its existing promotion and ongoing management as a recreational facility, and the existing parking limiting the number of visitors arriving by car, significant effects as a result of increased recreational pressure are considered unlikely.

As a result, no mitigation is proposed and no residual effects are anticipated.

Racecourse Plantation/Thorpe Wood CWS

Potential Effects. Racecourse Plantation/Thorpe Wood CWS is located adjacent to the southern boundary of the Site. Therefore without mitigation there is potential for construction activities to affect the CWS, including noise, dust deposition onto vegetation, and risk of surface water run-off or contaminants entering the site from the construction areas.

Operational effects would be limited to an increase in recreational pressure from new residents accessing the area for informal recreation, and risk of increased cat predation affecting local birds.

It should be noted that initial investigation has been undertaken to develop this woodland in future to secure its commercial and ecological value. Options investigated included developing the site into a community woodland as part of the NEGT development (funded by on-site development, or contributions from off-site developers), and re-invigorating commercial forestry.

In terms of recreation effects, the CWS is not open to the public and there are no formal access arrangements such as Public Rights of Way (PRoW) or parking. There appear to be several paths running through the Site, though these may be associated with a paintball company within the centre of the woodland. There are two informal access points from surrounding housing on Paston Way and Woodside Road. The majority of the rest of the CWS is fenced and there are several "Private Woodland" signs present, for example on Plumstead Road. Given there is no authorised access to the CWS, which indeed appears to be actively discouraged with signage, it is considered unlikely the development would result in an increase in recreational pressure at this Site at anything other than a negligible level of unauthorised access.

14 http://environment.data.gov.uk/catchment-planning/ManagementCatchment/6
6.5.16 In terms of cat predation, recent studies tracking domestic cats by GPS\textsuperscript{16} indicate that individuals roam from their homes over a variety of distances, ranging from 40m to 200m. Taking the larger distance of 200m, this would mean that cats in approximately half of the built development could travel into the CWS.

6.5.17 Survey has indicated that 17\% of the UK population owns a cat (Pet Food Manufacturers Association, 2015). Therefore the construction of 800 new dwellings could be expected to lead to an increase of 136 cats across the entire development (assuming each dwelling with a cat has only a single animal). With approximately half of the Site being within 200m of the CWS, this may lead to a potential increase of up to 68 cats able to enter the CWS. The CWS is designated for its damp acid grassland habitats present along the woodland rides, and no specific notable bird species are mentioned in the citation. As such potential cat predation in the CWS would be unlikely to affect the integrity of the CWS designation.

6.5.18 **Mitigation.** In order to minimise potential effects on the CWS during construction, general mitigation measures would be implemented as standard. Examples of such measures relevant to ecology include:

- Erection of tree protection fencing around retained trees and along hedgerows in accordance with BS5837:2012;
- Storage of materials and vehicles away from the CWS boundary;
- Dampening down of potential sources of dust;
- Adherence to EA Pollution Prevention Guidelines; and
- Implement noise suppression measures where required, such as turning off plant when not in use, and not siting generators close to sensitive ecological features.

6.5.19 No mitigation is proposed in relation to cat predation. Operational mitigation is built into the scheme design as described above, with a buffer zone created between the built development and the CWS with additional landscape planting.

6.5.20 **Residual Effects.** It is considered that with the implementation of the mitigation measures it is likely that no significant effects on the Racecourse Plantation/Thorpe Wood CWS will occur as a result of the proposals.

Other County Wildlife Sites

6.5.21 There are a further four CWS within 2km of the Site (though one is partly contiguous with Mousehold Heath LNR assessed above), the nearest being 450m away at its closest point. Therefore effects during construction such as from dust deposition or noise during construction would also be unlikely at these distances.

6.5.22 Operational effects would again be limited to an increase in recreational pressure; however this is considered unlikely. The nearest CWS, Paine’s Yard Wood and The Owelry, is located on private land within the Rackheath Hall Estate, and is separated from the Site by Salhouse Road and a further block of private woodland. Belmore and Brown’s Plantation is situated south Plumstead Road (with Racecourse Plantation to the north), also in private land though an unauthorised access point is visible on South Hills Road. Tolls Hill Wood CWS is located surrounding a private property backing onto a golf course and is securely fenced. Therefore the increased number of new residents is considered unlikely to result in any increase in recreational pressure at these Sites.

6.5.23 As a result, no mitigation is proposed and no residual effects are anticipated.

\textsuperscript{16} Thomas, RL et al (2014) *Ranging characteristics of the domestic cat (Felis catus) in an urban environment.* Urban Ecosyst. 17: 911-921
Habitats

Ancient Replanted Woodland

6.5.25 **Potential Effects.** Due to its proximity 15m from the northern Site boundary, without mitigation there is potential for construction activities to affect the site, including noise, dust deposition onto vegetation, and risk of surface water run-off or contaminants entering Bulmer Coppice from the construction areas.

6.5.26 Operational effects would be limited to an increase in recreational pressure from new residents accessing the area for informal recreation. However, the woodland forms part of the Rackheath Hall Estate and as such is not accessible. On the south west of the corner of the woodland there is an access point to the estate, which is securely gated and fenced with large deterrence signs. There are no informal access points from Salhouse Road evident. Given there is no authorised access to the woodland, which indeed appears to be actively discouraged with signage, it is considered unlikely the development would result in an increase in recreational pressure at anything other than a negligible level of unauthorised access.

6.5.27 **Mitigation:** Mitigation measures will be implemented during construction as outlined in the bullet points above.

6.5.28 **Residual Effects.** It is considered that with the implementation of the mitigation measures it is likely that no significant effects on Bulmer Coppice ARW will occur as a result of the proposals.

Hedgerows

6.5.29 All hedgerows within the Site, with the exception of the Leyland Cypress hedge, qualify as Priority Habitat and as such have elevated ecological value (although meeting the broad criteria for Priority Habitat, they are species poor and have no particular merit beyond their Priority status).

6.5.30 **Potential Effects.** The majority of hedgerows will be retained within GI in the built development. Some short sections require removal where proposed streets cross hedgerows. The lengths of hedgerow along Salhouse Road will largely require removal in order to create safe access points to the development and allow width for a proposed future Rapid Bus Transit along Salhouse Road. The removed hedgerow along Salhouse Road will be replaced with GI set into the development, including grassland and tree planting.

6.5.31 As such there will be a permanent loss of habitat, but the wider hedgerow network retained across the Site. As mentioned in section 6.4.10, some hedgerows will be strengthened with additional planting, and will be buffered from the built development by grassland strips of varying widths. Overall although there will be some habitat loss, the hedgerows are species-poor and the network will be maintained and strengthened across the Site, and as such these losses are not considered to be significant.

6.5.32 Without mitigation there is the potential for retained hedgerows to be damaged during construction. There is potential during operation for the quality of hedgerows to diminish due to a lack of management.

6.5.33 **Mitigation.** Measure to protect hedgerows will be implemented during construction as outlined in the bullet points in section 6.5.18. Hedgerows would be subject to ongoing management during operation as part of the general GI management, which would be secured via an Ecology and Landscape Maintenance and Monitoring Plan (see section 6.6).

6.5.34 **Residual effects.** With mitigation and ongoing management in place no significant residual effects are anticipated with regards to hedgerows.

Ponds

6.5.35 One pond is present within the site in the northwest corner adjacent to Salhouse Road.

6.5.36 **Potential Effects.** The pond will be retained as part of the proposals. However it will be located in close proximity to one of the main site access points. Therefore there is potential for the pond to be adversely affected during construction, for example by accidental damage,
surface water run-off or contaminants. There is potential for insensitive drainage design causing it to dry or flood. However, this is considered unlikely as a detailed SuDS scheme will be designed based on current guidance and detailed modelling.

6.5.37 There is potential for the pond to be adversely affected during operation, for example by a lack of management causing it to dry up, or from human effects such as new residents littering or putting non-native species into the pond such as fish, which may affect the existing population of Common Frog and Smooth Newt. It was noted in the Phase 1 survey that the pond is heavily shaded within broadleaf plantation and as such would likely benefit from management.

6.5.38 **Mitigation.** The pond will be protected during construction and best practice environmental measures implemented to minimise potential effects (see bullet points above). Management works will be implemented during construction, and the pond would then be subject to ongoing management during operation as part of the general GI management. It is recommended the proposed management works during construction are secured by an ecological input into the Construction Environmental Management Plan (CEMP).

6.5.39 **Residual Effects.** With mitigation and ongoing management in place no significant residual effects are anticipated with regards to ponds.

### Invasive Plants

6.5.40 **Potential Effects.** In the absence of mitigation there is the potential for construction activities to cause the spread of invasive plant species, both further within the Site, and off-site.

6.5.41 **Mitigation.** The invasive plants will be eradicated from Site. Method Statements will be prepared to detail the procedures for eradication, which will be undertaken by a suitably qualified contractor.

6.5.42 As invasive plants will be eradicated before/during construction no operational effects are anticipated.

6.5.43 **Residual effects.** With mitigation in place to eradicate invasive plants from Site no significant residual effects are anticipated.

### Fauna

#### Roosting Bats

6.5.44 **Potential Effects.** No evidence of roosting has been recorded during the surveys undertaken. However, bats are mobile species and can utilise a large number of roosting sites during the year. The survey did not record any buildings suitable for roosting bats, although this has the potential to change should the condition of the buildings change, causing potential access points to crevices of cavities to be created. In addition the survey did not identify any trees of elevated potential to support roosting bats, however this may change in future, for example by storm damage creating new crevices or causing rot holes to form.

6.5.45 Without mitigation, in the event a new potential roosting feature was created in the intervening time between survey and development, and that this was then utilised by bats at the time of works, there would be a risk of killing or injuring a roosting bat, and also then resulting in the destruction of the roost.

6.5.46 Should new roosting features develop in future on trees retained within the development, any use of those features by bats would be subject to the environmental conditions within the built development and therefore no operational effects are anticipated.

6.5.47 **Mitigation.** A pre-construction check will be undertaken at an appropriate time prior to commencement of development to ensure the condition of the buildings and trees affected have not changed such that bat roosting opportunities have been created. In the unlikely event the survey identifies new roosting opportunities have been created, further survey and any other resulting required mitigation will be implemented in accordance with published guidance.
6.5.49 **Residual Effects.** It is considered that with the implementation of the mitigation measures it is likely that no significant effects on roosting bats will occur as a result of the proposals. Indeed the proposals may bring a slight beneficial effect to roosting bats, with the provision of additional tree planting and new dwellings in time offering improved roosting opportunities compared to the baseline conditions.

**Commuting/foraging Bats**

6.5.50 Survey has identified an assemblage of ten bat species utilising the Site for commuting and foraging, including UK Priority Species and Annex 2 species, and as such the Site is of elevated ecological value in supporting this assemblage. The hedgerows and tree belts running across the Site appear to be being utilised by the local bat assemblage as sheltered foraging areas and for commuting between areas of woodland. Survey has identified three key corridors crossing the Site. These are identified in the Bat Survey Report as Corridors 1, 5 and 6, see Figure 6, in Appendix 6.1 Annex 3.

6.5.51 Corridor 1 recorded the highest levels of bat activity and links Racecourse Plantation to the south of the Site with woodlands north of Salhouse Road including The Breck and Harrison's Plantation. From Racecourse Plantation the corridor comprises a mixed plantation block between semi-improved grassland fields, an off-site tree belt within an adjacent property, and a small area of on-site broadleaf plantation adjacent to Salhouse Road. The verge along Salhouse Road is narrow and the trees overhang such that there is currently an aerial connection over the road to link the woodlands.

6.5.52 Corridor 5 recorded the second highest levels of bat activity during the static monitoring, and also recorded the highest diversity of bat species. It was noted to be valuable for foraging and commuting large bat species (such as Noctule), Brown Long-eared Bat, Myotis species and Barbastelle. This corridor links the broadleaf plantation in the south east corner of the Site with Bulmer Coppice to the north of Salhouse Road, via a species-poor hedgerow with some standard trees, and an adjacent belt of dense scrub.

6.5.53 Corridor 6 forms the eastern boundary of the Site and generally recorded low levels of activity which peaked during the September survey. The corridor was noted to be of importance due to its linking of Thorpe End residential area with Bulmer Coppice and therefore may provide a key route for bats roosting in the dwellings to foraging areas in Bulmer Coppice and the woodland complex beyond. The corridor comprises a species-poor hedgerow with improved grassland to the west and arable land to the east.

6.5.54 **Potential Effects.** As identified in Section 6.4.10 (Mitigation within the submitted design) all the identified commuting corridors (Corridors 1 – 6) will be retained. Potential effects during construction therefore include the potential for temporary lighting to affect bats utilisation of these routes, and accidental damage of retained vegetation resulting in removal of connecting habitat.

6.5.55 In terms of the key corridors, a proposed road and footway crosses Corridor 1, and three minor side streets cross Corridor 5. However, the width of the gaps are not such that it would cause severance of the routes during their construction.

6.5.56 Potential operational effects are limited to operational lighting affecting bat use of the routes, in particular illumination of the created gaps where streets cross the route, and illumination of Corridor 5 which is narrower, would be bordered by residential areas on both sides and is used by light sensitive species such as Brown Long-eared Bat and Barbastelle. In addition, a portion of Corridor 1 lies off-site; as such there is a risk that third parties may undertake tree works and remove or sever the corridor which would be out of the control of the developer.

6.5.57 **Mitigation.** The following mitigation measures will be implemented:

- Retained trees and hedgerows will be protected during construction by erection of tree protection fencing around retained them in accordance with BS5837:2012;
- Any temporary lighting required during construction will be sited so as not to illuminate Corridors 1-6 or any other linear features, such as the edge of Racecourse Plantation. Temporary lighting will be designed in line with “Bats and Lighting in the UK 2009”;
- No temporary lighting will be used in the vicinity during construction of the proposed streets where they cross Corridors 1 and 5.
- Siting of any compounds or materials storage area requiring illumination will be well away from these corridors.
- To ensure Corridor 1 is not affected by off-site works by third parties and remains secure into the future, a significant amount of greenspace will be delivered in this area of the Site including planting of a linear tree belt, grassland and SuDS ponds.
- The remainder of Corridor 1 will be also strengthened by widening it with additional planting and buffering it from the built development with an area of grassland.
- Corridor 6 (which was noted in the Bat Survey Report would benefit from work to improve it) will be strengthened with additional tree planting.
- Operational lighting will be sensitively designed to ensure central dark corridors are created along key routes, in particular where new streets cross the corridors. At this outline stage, a detailed lighting plan has not been produced; therefore it is recommended that this is secured via a planning condition. This should specify the need for modelling and production of lux plot drawings along the corridors to demonstrate that within the GI a central dark corridor of 1 lux or less can be achieved.
- Where new streets cross the corridors, landscape planting should be designed to provide “hop-overs” across them.

6.5.58 To monitor the success of the measures and the continued use of the corridors by bats, post-construction monitoring surveys should be undertaken and remedial works undertaken where required (e.g. additional planting).

6.5.59 Residual Effects. It is considered that with the implementation of the mitigation and monitoring measures it is likely that no significant effects on commuting or foraging bats will occur as a result of the proposals.

Badger

6.5.60 Two Badger setts are present within the Site, though these showed no recent signs of activity during the survey and no other Badger field signs were recorded. Therefore it appears likely that Badgers may utilise the Site on an occasional basis only. The setts will be retained as part of the proposals in the existing area of woodland and as such will also be buffered from the built areas of the development.

6.5.61 Potential Effects. Construction of the built areas will result in the permanent loss of suitable Badger foraging habitat though it appears from survey evidence it is not an important resource for any local population. Construction is unlikely to fragment Badger habitat as in the event any Badgers do cross Salhouse Road this would still be possible to the east of the Site, and it will still be possible to access Racecourse Plantation. Therefore construction effects would be limited to the unlikely occurrence of Badger becoming injured as a result of entering construction areas, for example by becoming trapped in excavations left open overnight. No operational effects are anticipated.

6.5.62 Mitigation. A series of measures will be put in place to minimise the risk to foraging Badgers from general construction works across the Site. These are outlined below:
- No construction works within 20m of the identified setts;
- All contractors will be briefed as to the possible presence of Badgers within the Site, with particular reference to the implications of legislation and licensing;

- Any trenches or deep pits within the Site that are to be left open overnight will be provided with a means of escape should a Badger enter. This could simply be in the form of a roughened plank of wood placed in the trench as a ramp to the surface. This is particularly important if the trench fills with water;

- Any trenches/pits will be inspected each morning to ensure no animals have become trapped overnight;

- The storage of topsoil or other ‘soft’ building materials in the Site will be given careful consideration. Badgers will readily adopt such mounds as setts. So as to avoid the adoption of any mounds, these will be kept to a minimum and will be subject to inspections by Site contractors with consideration given to temporarily fencing any such mounds to exclude Badgers;

- The storage of any chemicals at the Site will be contained in such a way that they cannot be accessed or knocked over by any roaming animals; and

- Food and litter will not to be left within the working area overnight.

6.5.63 In addition to the above, a pre-construction check will be undertaken to re-visit the Site to confirm the continued absence of Badger. Depending on the results, additional mitigation will be detailed if required.

6.5.64 **Residual Effects.** It is considered that with the implementation of the mitigation measures and conducting a pre-construction check to ensure the conclusion of this assessment remain valid, it is likely that no significant effects on the local Badger population will occur as a result of the proposals.

**Common Amphibian Species**

6.5.65 An on-site pond is present which supports common amphibian species, including Smooth Newt and Common Frog, and is likely to support Priority Species Common Toad. Although not legally protected, in accordance with the NPPF these amphibian populations should be considered. Although the pond itself will be retained and subject to ongoing management as discussed in the pond section above, the amphibian populations associated with it may be adversely affected by the proposals.

6.5.66 **Potential Effects.** There is potential for construction activities to kill or injure common amphibian species during site clearance works. As the species are not legally protected no specific measures are required.

6.5.67 There will be a loss of suitable habitat within the footprint of the development, which may cause amphibians to cross Salhouse Road, resulting in an increase in road mortality. Without mitigation, on-site roads will cause fragmentation of the remaining habitat or result in road mortalities as amphibians attempt to cross. Insensitive drainage design may result in amphibians becoming trapped in gully pots leading to mortality. Therefore, though not legally protected, in order to maintain the ecological interest of the Site including its pond and amphibian populations, mitigation is required.

6.5.68 **Mitigation.** During construction, staff will receive a toolbox talk detail the procedure to be followed if a common amphibian is found, how it should be handled, and where it should be moved to.

6.5.69 Potential effects during operation can be avoided through design of a sensitive drainage scheme at the detailed design stage. This should focus on the area of proposed GI which links the existing on-site pond across the site to Racecourse Plantation. Measures to be incorporated into the drainage design should include use of amphibian underpasses at key crossing points, and installation of amphibian friendly gully pots across that sector of the built development.
6.5.70 **Residual Effects.** It is considered that with the implementation of the mitigation measures it is likely that the existing ecological interest of the amphibian populations can be maintained.

### Reptiles

6.5.71 The Phase 1 Habitat survey identified areas of habitats with potential to support reptiles including rough tussocky grassland and scrub edges. Reptile surveys will be undertaken via a planning condition to inform the requirement for any detailed mitigation measures. Given the habitats present, and their isolation from other suitable habitats (by arable land, dense woodland plantation and residential development), it is considered that if reptiles are present these would only be low numbers of common species. The results of the survey would be unlikely to materially affect this assessment, but would simply alter the amount and type of mitigation to be delivered.

6.5.72 **Potential Effects.** Should small numbers of common reptile species be present within the Site, there would be a risk of killing or injuring individuals during construction, for example during ground preparation works. There would also be a permanent loss of suitable habitat under the footprint of the built development. No operational effects are anticipated.

6.5.73 **Mitigation.** Mitigation measures would be informed by the survey results and would ensure that any reptiles present within suitable habitats to be affected by the works are identified and relocated prior to works commencing. Dependant on the locations of any reptiles recorded during the surveys, mitigation would take the form of either displacing reptiles to adjacent suitable habitat via phased vegetation removal, or by capture and relocation to a suitable receptor site. If reptiles are found to be present during the surveys a Reptile Mitigation Plan would be produced, which would detail the mitigation measures required to safeguard reptiles.

6.5.74 **Residual Effects.** It is considered that with the implementation of the mitigation measures it is likely that no significant effects on any reptile population will occur as a result of the proposals. The creation of additional habitat types including edge habitats and SuDs features would compensate for any habitat loss and offer opportunities for reptiles within the built development.

### Birds

6.5.75 It is considered, given the available information from the desk study and habitat survey, that the Site is likely to support a modest assemblage of common bird species, with the potential for some farmland bird species to be present (with Skylark, a Priority and Red Listed species recorded from survey). There is suitable habitat present for nesting birds in buildings, trees, hedgerows and scrub, and for some ground nesting species in the grassland.

6.5.76 **Potential Effects.** Without the implementation of mitigation, there may be a loss of active nests if building demolition, vegetation removal or ground clearance works were to take place during the nesting season.

6.5.77 Construction of the built areas will result in the permanent loss of buildings (with potential to support Barn Owl), grassland, some areas of scrub and small sections of hedgerow, resulting in a reduction of nesting habitat for a range of bird species. However, the majority of valuable bird habitats such as hedgerows and plantation woodlands will be retained, avoiding any significant or permanent loss of breeding habitat.

6.5.78 The proposals are considered likely to result in the loss of few breeding territories for Skylark. There are large areas of alternative areas of arable land and grassland which could be utilised by Skylark or other ground nesting farmland bird species in the vicinity of the Site to the east.

6.5.79 Potential operational effects include potential beneficial effects such as new tree planting providing additional/new nesting opportunities and residents feeding the birds, balanced with potential adverse effects such as in increase in predation from cats (covered above in the Racecourse Plantation CWS assessment). Upon balancing these effects no significant adverse
effects are anticipated during operation, and as such mitigation is proposed during construction only.

6.5.80 **Mitigation.** The potential loss of active nests during construction will be mitigated by either undertaking clearance of potential bird nesting habitat outside the breeding season (March to August inclusive) or, if necessary, preceding any clearance by an inspection by a professional ecologist. Any nests found would be cordoned off and protected until they ceased to be active. Disturbance from noise would be minimised by the adoption of good working practice.

6.5.81 A pre-demolition check of the buildings will be undertaken to ensure the continued absence of Barn Owl.

6.5.82 There is further potential to enhance the built development for breeding birds by the inclusion of nest boxes on tree or buildings (which would be confirmed by the client at detailed design).

6.5.83 **Residual Effects.** It is considered that with the implementation of the mitigation measures it is likely that no significant effects on the local bird assemblage will occur as a result of the proposals.

6.6 **Maintenance and Management**

6.6.1 It is recommended a Landscape and Ecology Maintenance and Monitoring Plan is developed to ensure that habitats are maintained appropriately during operation, with key areas being the bat commuting corridors and the on-site pond.

6.7 **Mitigation Measures**

6.7.1 As discussed above, a number of mitigation measures and pre-construction checks will be implemented in order to reduce any potential effects to a level which is not significant. In summary these are:

- Provision of on-Site and off-Site GI to deflect new residents away from The Broads designations to reduce recreational pressure (as detailed in a separate document to inform a Habitats Regulations Assessment).

- Implement best practice environmental measures during construction such as protection of trees and hedgerows, and suppression of dust.

- Ongoing management of retained trees and hedgerows so they continue to function as ecological corridors during operation.

- Protection and ongoing management of the on-site pond, with management works during construction to be detailed within the CEMP.

- Eradication of invasive plants.

- A pre-construction check of existing buildings and trees, to ensure there have been no significant changes to the baseline conditions which report there are no opportunities present for roosting bats.

- Several measures to retain and strengthen key corridors for commuting and foraging bats, such as additional tree planting and provision of grassland strips to buffer from the built development areas.

- Sensitive lighting design and use during construction to ensure commuting corridors can continue to be utilised by bats.

- Sensitive design of operational lighting combined with landscape design to create dark commuting corridors and “hop overs” across new streets (recommended to be secured via a planning condition/S106 to demonstrate light levels of below 1 lux within the corridors), to ensure they continue to be used by bats, including light sensitive species.
• Post-development monitoring of bat corridors to ensure they continue to be utilised and to implement remedial actions if required.

• A pre-construction Badger check, and implement additional mitigation if required.

• Measures to safeguard Badgers in the event any enter the construction areas.

• Toolbox talk to brief construction staff on existing populations of common amphibians.

• Sensitive drainage design and other measures to protect the ecological interest of the existing pond and amphibian populations, for example through use of amphibian underpasses and wildlife friendly gully pots.

• Reptile survey secured by planning condition will inform any specific mitigation measures. If mitigation is required, a detailed Reptile Mitigation Plan will be produced to safeguard reptiles during construction.

• Building demolition, vegetation removal and ground clearance will avoid the breeding bird season if possible, or be preceded by a check by an Ecologist. A specific pre-demolition check will be undertaken of the buildings to ensure the continued absence of Barn Owl.

• Invertebrate survey secured by planning condition will be undertaken in order to tailor any enhancements to the species recorded.

• Production of a Landscape and Ecology Maintenance and Monitoring Plan to cover operational habitat management.

6.8 Cumulative Effects

6.8.1 The Site forms the majority of the GT7 allocation within the NEGT, with the remaining area being brought forward under a separate application. The separate application will comprise approx. 280 dwellings and a mixed use Local Centre, and is therefore approx. 35% the size of the Proposed Development. If this development is brought forward in pursuance with Local Policy and ensuring no significant adverse effects on biodiversity, there is no reason to consider that would result in significant effects when considered in-combination with the Proposed Development.

6.9 Residual Effects

6.9.1 No adverse residual effects are predicted, as the mitigation measures when implemented will reduce potential adverse effects to a level that is not significant.

6.10 Habitats Regulations

6.10.1 The applicant has considered the likelihood of any significant effects on these European-level ecological designations, which could arise from the proposed development (see appendix 6.2 ES Volume 3). This work undertaken by the applicant also assesses the need for further work to be undertaken by the Competent Authority at the application stage, in the form of an Appropriate Assessment.

6.10.2 The issues effectively relate to the potential for any recreational pressure on the Broads. There are a considerable number of studies and a documented evidence base to inform local policy on how visitor pressures on The Broads resulting from growth in the Norwich area can be adequately mitigated. Whilst acknowledging the inherent draw of The Broads, provision of high quality formal and informal GI to a quantum of 2.02 and 4.16ha per 1,000 population respectively should result in no likely significant effects, by drawing visitors to alternative sites for everyday recreation. If possible the quantum should be met on-site but off-site provision can also be considered, in line with the NEGT AAP. Due to a predicted shortfall of on-site GI,
off-site GI should be provided in order that the quantum is fulfilled, ideally as close to the site as possible. This should be secured in the planning process for example via Section 106 agreement. Provision of on-site GI could also be secured via Section106 to ensure the final design offers a high quality recreational resource for residents. With the above measures in place, the Proposed Development would be in pursuance with local Policy and as such no likely effects on The Broads designations are anticipated.

6.10.3 As such, if the above measures are secured at the outline planning stage, it is not considered that a Stage 3 Appropriate Assessment is required to be undertaken by the Competent Authority.

6.11 Summary

6.11.1 This assessment is informed by ecological desk study and survey work including Phase 1 Habitat Survey and specific faunal surveys for Badger, bats and Great Crested Newt. Surveys for reptiles and invertebrates are to be secured via a planning condition to inform any requirement for reptile mitigation or species specific enhancements for invertebrates. There are a number of internationally important designated sites in the vicinity of the Site including The Broads SAC, Broadland SPA/Ramsar site, The River Wensum SAC and Norfolk Valley Fens SAC. Effects on the River Wensum and Norfolk Valley Fens SAC are scoped out as the Site is outside of The Wensum river catchment. Potential effects relating to an increase in recreational pressure at The Broads designations as a result of the increased number of new residents are assessed in further detail in a separate document. The document reports that no significant adverse effects are anticipated and as such an Appropriate Assessment is not considered to be required. Other designations in the vicinity include Mousehold Heath LNR and four CWS, including Racecourse Plantation/Thorpe Wood CWS which is adjacent to the southern Site boundary. Bulmer Coppice, an area of Ancient Replanted Woodland is located 15m north of the Site on the opposite side of Salhouse Road. Mitigation will be implemented during construction to minimise potential effects on the closest designations, for example by supressing noise and dust generation. No adverse effects during operation are anticipated (from an increase in recreational pressure at these designations, due to their distance from the Site and/or inaccessibility to the public. The Site itself is dominated by grassland fields, surrounded and bisected by species-poor hedgerows and blocks of plantation woodland and scrub. Construction will result in the permanent loss of grassland and scrub, these habitats are common and widespread, and as such they are of low ecological value. Some short sections of hedgerow, will require removal. The losses would not result in a significant adverse effect, and will be compensated for to some extent by new areas of landscape planting. In terms of fauna, potential significant adverse effects can be avoided by implementing mitigation measures for bats, Badger, reptiles (if required following survey), common amphibians and birds. It has been identified, that in terms of fauna, the key ecological receptor is the assemblage of bats using commuting routes across the Site as links to different woodlands which comprises ten species (including Priority Species and Annex 2 species). It will therefore be essential to ensure the retention of dark corridors across the Site to support the existing bat assemblage. The incorporation of areas of GI within the development including tree planting, grassland and SuDS features will maintain wildlife corridors across the Site and may offer improved opportunities for some species. There are no committed developments in the area which would result in cumulative effects when assessed in-combination with the proposals. Overall, with the mitigation measures in place, no significant residual effects are anticipated, either during construction or operation.