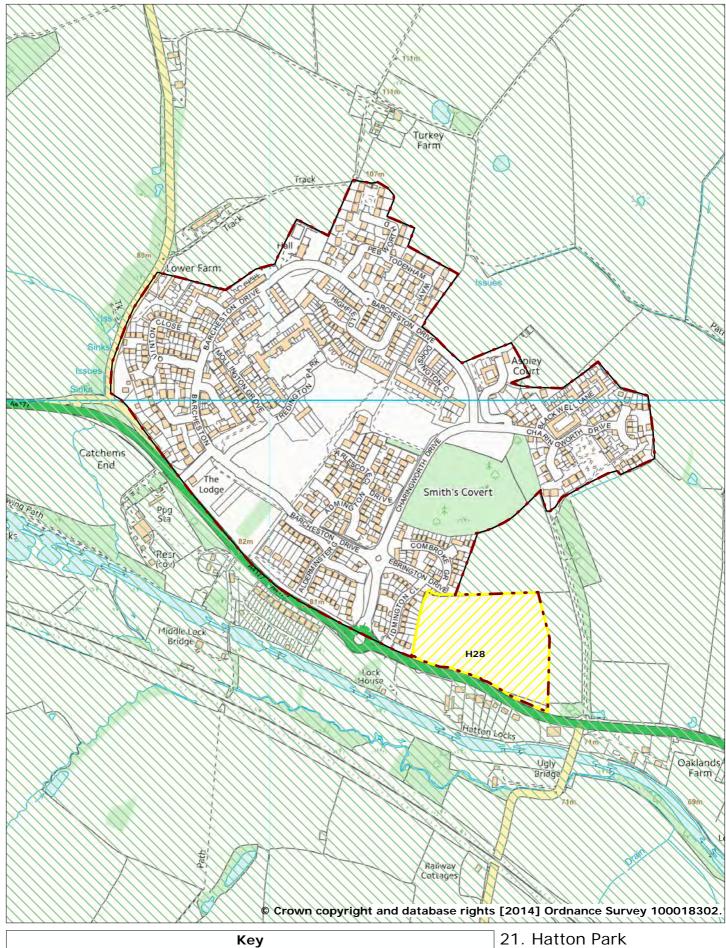
## Appendix F

Local Plan Proposals Map: Hatton Park



WDLP - Green Belt (DS19) WDLP - Housing Allocations (DS11)

✓ Site Ref

WDLP - Growth Village Envelopes (H10)

Local Plan Policies Map





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Land at Birmingham Road, Hatton

# Preliminary Ecological Appraisal

Prepared by
CSa Environmental Planning

On behalf of Taylor Wimpey UK Ltd

Report No: CSa/2684/01

August 2015

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#### **EXECUTIVE SUMMARY**

Residential development is proposed at the Land at Birmingham Road, Hatton, for which outline planning permission will be sought. Approximately 3.9 hectares is allocated in draft for 90 dwellings, with an additional 3.8 hectares to be promoted for removal from the Green Belt.

CSa Environmental Planning was instructed by Taylor Wimpey UK Ltd to undertake a Preliminary Ecological Appraisal (PEA) of the Site to identify ecological constraints to development, inform recommendations for design change, highlight opportunities for ecological enhancement and determine the need for any additional investigation/survey work necessary.

As part of this PEA, a desk study and extended Phase 1 Habitat survey of the Site were undertaken in July 2015. The Site comprises two arable fields with semi-improved grassland field margins and associated hedgerow boundaries.

Confirmed ecological constraints to development of the Site are:

- Hedgerows; and,
- Nesting birds.

The following additional investigation/survey work is considered appropriate to inform an 'Ecological Assessment' of the proposed development:

- Bats surveys;
- Great crested newt surveys;
- Hedgerow assessments, and
- Reptile surveys.

Recommendations have been provided for ecological enhancement that could be delivered as part of the proposed development, including:

- Native infill planting of existing hedgerows, and
- Tree planting.

#### 1.0 INTRODUCTION

- 1.1 This report has been prepared by CSa Environmental Planning on behalf of Taylor Wimpey UK Ltd. It sets out the findings of a Preliminary Ecological Appraisal (PEA) of Land at Birmingham Road, Hatton (hereafter referred to as the 'Site').
- 1.2 The Site occupies an area of c. 7.5 ha and is located around central grid reference SP 2540 6660, to the south east of Hatton, Warwickshire. It consists of two arable fields with semi-improved grassland field margins and associated hedgerows (see Habitats Plan in Appendix A).
- 1.3 Part of the Site (c. 3.7ha) is allocated for 90 houses and c. 3.8 ha is to be promoted for allocation within the Warwick Local Plan for residential development.
- 1.4 A desk study and extended Phase 1 Habitat survey were undertaken for the Site, the findings of which are presented herein.

#### 1.5 This PEA aims to:

- Identify any ecological constraints to the project;
- Make recommendations for design changes;
- Identify further ecological surveys necessary to inform a full 'Ecological Assessment' of the Site, following ecological impact assessment methodology<sup>1</sup>; and,
- Highlight opportunities for ecological enhancement.
- 1.6 It should be noted that a PEA is typically only suitable for planning if there are no ecological constraints at a site. Where ecological constraints are identified these should be dealt with in a separate 'Ecological Assessment' report to cover those constraints, which would supersede the PEA.
- 1.7 The scope of this appraisal has been determined in line with best-practice quidance provided by the Chartered Institute of Ecology and Environmental Management (CIEEM)<sup>2</sup>.

<sup>&</sup>lt;sup>1</sup> IEEM (June 2006). Guidelines for Ecological Impact Assessment in the United Kingdom.

<sup>&</sup>lt;sup>2</sup> CIEEM (2015) Guidelines for Ecological Report Writing

#### 2.0 LEGISLATION, PLANNING POLICY & STANDING ADVICE

#### Legislation

- 2.1 Legislation relating to wildlife and biodiversity of particular relevance to this PEA includes:
  - The Conservation of Habitats and Species Regulations 2010 (as amended)
  - The Wildlife and Countryside Act 1981 (as amended)
  - The Natural Environment and Rural Communities (NERC) Act 2006
  - The Protection of Badgers Act 1992
- 2.2 This above legislation has been addressed, as appropriate, in the production of this report. Further information on the above legislation is provided in Appendix B.

#### **National Planning Policy**

- 2.3 The National Planning Policy Framework (2012)<sup>3</sup> (NPPF) sets out the government planning policies for England and how they should be applied. Chapter 11: Conserving and Enhancing the Natural Environment, is of particular relevance to this report as it relates to ecology and biodiversity. Further details are provided in Appendix B
- 2.4 The Government Circular 06/2005, which is referred to by the NPPF, provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.

#### **Local Planning Policy**

2.5 A number of local planning policies relate to ecology, biodiversity and/or nature conservation. These are summarised in Table B.1 of Appendix B. These policies have been addressed, as appropriate, in the production of this report.

#### Standing Advice

2.6 Natural England Standing Advice<sup>4</sup> regarding protected species aims to support local authorities and forms a material consideration in determining applications in the same way as any individual response received from Natural England following consultation. Standing advice is therefore been given due consideration, alongside other detailed guidance documents, in the production of this report.

<sup>&</sup>lt;sup>3</sup> Department for Communities and Local Government (2012) National Planning Policy Framework

<sup>&</sup>lt;sup>4</sup> https://www.gov.uk/protected-species-and-sites-how-to-review-planning-proposals

#### 3.0 METHODOLOGY

#### **Desk Study**

- 3.1 The Multi-Agency Geographic Information for the Countryside (MAGIC)<sup>5</sup> online database was interrogated in July 2015 to identify:
  - Special Protection Areas (SPA), Special Areas of Conservation (SAC) and Ramsar sites within 10 km of the Site.
  - Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Local Nature reserves (LNR) within 3 km of the Site.
  - Other relevant data e.g. Ancient Woodland Inventory.
- 3.2 Warwickshire Biological Records Centre (WBRC) was contacted for details of any non-statutory designations and records of protected/notable habitats and species. This information was requested for an area encompassing the Site and adjacent land within c. 1 km of its central grid reference.
- 3.3 All relevant desk study data are presented in Appendix C.

#### Field Survey

#### Extended Phase 1 Habitat Survey

- 3.4 An extended Phase 1 habitat survey was carried out during predominantly dry weather conditions with occasional showers on 08 July 2015 by Claire Dovey GradCIEEM, encompassing the Site and immediately adjacent habitats that could be viewed.
- 3.5 The method and results of the extended Phase 1 Habitat survey are presented on the Habitats Plan in Appendix A and in Appendix D, which includes a list of floral species recorded in each habitat.

Limitations

3.6 No limitations were encountered during the Extended Phase 1 habitat survey.

#### **Evaluation and Assessment**

3.7 The evaluation and assessment of ecological features within the Site's 'zone of influence' is beyond the scope of this PEA and has therefore not been undertaken. Formal evaluation and assessment of any identified ecological receptors should be undertaken as part of either a full 'Ecological Assessment', or receptor-specific survey and assessment in accordance with the published CIEEM methodology<sup>6</sup>.

<sup>&</sup>lt;sup>5</sup> http://www.magic.gov.uk

<sup>&</sup>lt;sup>6</sup> IEEM (June 2006). Guidelines for Ecological Impact Assessment in the United Kingdom.

#### 4.0 BASELINE ECOLOGICAL CONDITIONS

#### **Designations**

#### **Statutory**

4.1 A search for statutory designations including SPA, SAC and Ramsar sites was undertaken within 10km of the Site boundary. No Statutory designations were found within this radius.

#### Non-Statutory

- 4.2 Three non-statutory designations are present within 1 km of the Site, namely Hatton Hill Field LWS (c. 0.5km east), Brownley Green Lane LWS (c. 0.7km north west) and Gog Brook LWS (c. 1km south). There are also five potential wildlife sites including Smiths Covert pLWS which is adjacent to the north boundary, Grand Union Canal (Hatton Locks) pLWS (c. 0.1km south), Leamington Spa to Birmingham Railway pLWS (c. 0.2km south), Blackbrake Plantation pLWS (c. 0.4km north east) and Field at Oldence (c. 0.8km south east) pLWS.
- 4.3 These non-statutory designations are described in Table 1 below.

Table 1 Statutory and non-statutory designations within data search radii

Site Name & Designation	Distance & Direction from Survey Area	Brief Description of Designated Site			
Non-statutory Des	Non-statutory Designations within 1 km				
Hatton Hill Field LWS	c. 0.5km east	Part of the site is allocated as a Local Wildlife Sit due supporting a species rich grassland with count rarities.			
Brownley Green Lane LWS	c. 0.7km north west	Designated for habitat – a wooded lane with a range of flora and a small stream.			
Gog Brook LWS	c. 1km south	Included as part as the river Avon LWS.			
Smith's Covert pLWS	Adjacent to north boundary	An Ancient Semi-natural Woodland.			
Grand Union Canal (Hatton Locks) pLWS	c. 0.1km south	An important linear wildlife feature			
Leamington Spa to Birmingham Railway pLWS	c. 0.2km south	Parts of this site have been selected as a potential Local Wildlife Site due to the linear feature providing an important wildlife corridor.			
Blackbrake Plantation pLWS	c. 0.4km north east	Important for supporting mature trees.			
Field at Oldence pLWS	c. 0.8km south east	Mix of semi-improved fields and broad-leaved woodland.			

#### **Ancient Woodland**

4.4 One potential Local Wildlife Site, Smith's Covert is adjacent to the Site on the northern boundary. This pLWS is listed as an Ancient Semi-natural woodland.

#### **Habitats and Flora**

#### Notable Flora Records

4.5 WBC have provided five records of four notable plant species from within the search area. Those of potential relevance to the site include 'Scarce' species greater chickweed *Stellaria neglecta* (c. 60m) and orange foxtail *Alopecurus aequalis* (1km north east). A record of wild strawberry *Fragaria vesca* was provided 0.4km west of the Site, and this species was also found onsite during the phase 1 survey. Wild strawberry is listed as 'Near Threatened' on the England Red List.

#### Habitats

The following habitats were recorded on site and classified in line with current Phase 1 habitat species guidance<sup>7</sup>, as illustrated in Appendix A and with detailed species lists for each habitat are provided in Appendix D.

#### Arable fields and grassland margins

- 4.7 The site comprises two arable fields (F1 and F2) both sown with field beans. The fields have semi-improved grassland margins in varying widths, from 0.5m in the north west of the site to c.4m along the eastern boundary.
- 4.8 The semi-improved grassland margins are dominated by cock's-foot grass Dactylis glomerata with frequent fescue Festuca sp., false oat-grass Arrhenatherum elatius and perennial rye grass Lolium perenne. The margins had recently been cut and therefore at the time of survey were short with few herb species in evidence. Selfheal Prunella vulgaris, white clover Trifolium repens and greater plantain Plantago major were seen.

#### Hedgerows

- 4.9 The site includes five hedgerows (H1 H5).
- 4.10 Hedgerow 1 is a mature yet gappy hedge with breaks filled with encroaching scrub and ruderal species, such as bramble *Rubus fruticosus* agg., and great willowherb *Epilobium hirsutum*. The hedgerow itself is grown out in parts and dominated by hawthorn *Crataegus monogyna* with several horse chestnut *Aesculus hippocastanum* standards. Other native species present within H1 include cherry *Prunus* sp., crab apple *Malus sylvestris* and ash *Fraxinus excelsior*.
- 4.11 Hedgerow 2 is a continuation of H1 within Field 2, however the composition is noticeably more species rich. The dominant species within H2 is blackthorn *Prunus spinosa*, with other species including field maple *Acer campestre*, ash, hawthorn, hazel *Corylus avellana*, oak and elder *Sambucus nigra*. Several stands of elm *Ulmus minor* have died back leaving breaks within H2 where bramble scrub and ruderal species have encroached. Ground flora includes predominately ruderal species such as nettle *Urtica dioica* and greater

<sup>7</sup> Ibid.

willowherb, however with the presence of seven woody species, and the position adjacent to a byway and adjoining a woodland to the north, suggests that H2 may meet the criteria for an 'Important' hedgerow under the Hedgerow Regulations.

- 4.12 Hedgerow 3 bisects F1 and F2 on an east—west axis. This is a mature grown out hedge dominated by hawthorn towards the eastern end and ash towards the western end. The species composition is similar to that of H1 and H2, with blackthorn, elm and apple.
- 4.13 Hedgerow 4 runs the length of a residential boundary along the western edge of Field 1. This hedgerow is shorter than H1 H3, and includes an additional species such as rose *Rosa* sp.
- 4.14 Hedgerow 5 forms the southern boundary of the site and sits on top of a bank leading down to the A4177, Birmingham Road. This is similar in structure to H1 H3, is mature and has been allowed to grow out to form a strip of trees running in to a small woodland copse in the south east corner of the site. The dominating species is hawthorn with additional species comprising willow *Salix* sp., dogwood *Cornus sanguinea*, and sycamore *Acer pseudoplantanus*.

#### Woodland

- 4.15 Smith's Covert, a pLWS, forms the northern boundary of the Site. The woodland comprises mature oak, ash and sycamore, with a hawthorn, blackthorn, holly *llex aquifolium*, elder and cherry laurel *Prunus laurocerasus* under storey. Several of the trees within the woodland have dead limbs and/ or splits with standing dead wood approximately 20m from the southern edge of the woodland.
- 4.16 Very little ground flora was observed with ruderal and scrub species dominating.

#### **Fauna**

#### Bats

4.17 There are four bat records from within the search area dating from 2002 to 2013, all of which relate to unidentified bat species. The closest of the records is dated 2004 and refers to an individual bat roosting in a house on Tidmington Close, c. 15m from the western boundary of the site. Two other records are for roosts; from 2004 within a house c. 70m south of the Site, and from 2013 where nine bats were recorded flying between Smith's Covert and the rear of Honington Close, c. 75m north of the Site. The fourth record refers to droppings found within the roof space of a house c. 300 west of the Site. This record is provided as an unidentified bat species, however the annotations state that droppings are potentially those of a brown long-eared bat *Plecotus auritus*.

4.18 The roost records are significant due to being within the immediate vicinity of the Site. It is likely that bats maybe using several features within the area to roost and forage, potentially including the hedgerows on and surrounding the Site, and Smith's Covert on the northern boundary.

#### Badger

- 4.19 WBRC have provided 12 records of badger *Meles meles* from within the search area. These records are provided via a plan mapping road casualties and setts, however grid references and dates are not provided. One record is for a sett c. 0.7 km from the Site. All other records are for road casualties, both to the east and west of the Site; on the A4177 Birmingham Road, adjacent to the southern site boundary, and Brownley Green Lane, c.0.7km west of the Site.
- 4.20 No evidence of badger activity was observed on site during the site visit. Semi-improved grassland margins, hedgerows and woodland to the north of the Site all provide suitable foraging and potential sett areas for badgers. Although no records were provided for badgers within the Site, it is likely that badgers may disperse across the site.

#### Other mammals

#### Brown hare

- 4.21 WBRC have provided six records of brown hare *Lepus europeus* from within the search area, dating from 2004 to 2011. The closest record is c. 0.5 km north east of the Site.
- 4.22 Brown hare prefer open fields with short crop / grass for feeding and to be able to view predators. The Site, comprising two large arable fields may provide suitable habitat at certain times of year. However as crop grows hares will disperse on to more suitable land nearby. It is not considered that the loss of this land due to development will impact the local hare population, given the rural context of the site.

#### Hedgehog

- 4.23 WBRC have provided an individual record of hedgehog *Erinaceus europaeus* from within the search area dating from 1974. This record is c. 0.6km south east of the Site, close to the Grand Union Canal.
- 4.24 The semi-improved grassland margins and hedgerows as well as the woodland to the north of the site provide foraging opportunities and shelter for hedgehogs. Additionally the residential estate to the west will provide some foraging opportunities within the associated gardens.

#### **Birds**

4.25 WBRC provided an individual historic record of barn owl *Tyto alba* from 1905 c. 1km east of the site. Other notable bird records of relevance to the proposed development date from 1993 to 2011. These records include 'red' listed Birds

of Conservation Concern (BoCC) (species that have seen a 50% decline in breeding population over 25 years, or the longer term assessment period; since 1969) such as yellowhammer *Emberiza citronella* and lesser spotted woodpecker *Dendrocopus minor*. Records of 'amber' listed species; species that have seen >25% decline <50% decline in breeding population over 25years or the longer term assessment period; since 1969 such as kestrel *Falco tinnuculus* and bullfinch *Pyrrhula pyrrhula*. The green woodpecker *Picus viridis* is classed as a species of European Conservation Concern.

4.26 The hedgerows and grassland margins provide nesting and foraging opportunities for these bird species, as well as additional species that were incidentally recorded on the site survey, including wren *Troglodytes troglodytes*, gold finch *Carduelis carduelis*, great tit *Parus major*, blue tit *Cyanistes caeruleus*, robin *Erithacus rubecula*, blackcap *Sylvia atricapilla* and gold crest *Regulus regulus*. With regards lesser spotted woodpecker, the more mature trees found on the southern boundary and Smith's Covert offer more suitable habitat for feeding and nesting.

#### Reptiles

- 4.27 WBRC have provided 34 records of two reptile species from within the search area, dated between 2010 and 2012. These include grass snake *Natrix natrix* and slow-worm *Anguis fragilis*. Twenty four of the records have been provided from Hatton Hill Fields LWS c. 0.6km south west of the Site.
- 4.28 The grassland margins had recently been cut on the day of the site visit, however they still offer suitable habitat for reptiles. The hedgerows also form dispersal corridors within the wider landscape. The records predominately relate to a wildlife site across the Grand Union Canal and a major road, the A4177, therefore it is unlikely that this population will be able to disperse on to the Site. However, the absence of records in the vicinity of the Site should not be taken as evidence of the likely absence of these species. Given the suitability of habitats on site and on adjacent land, namely residential gardens and small areas of grassland to the east of the Site across Ugly Bridge Road, there is potential for reptiles to occur within the margins on the Site.

#### **Amphibians**

4.29 WBRC have provided four records of two amphibian species from within the search area, including smooth newt *Lissotriton vulgaris* and common toad *Bufo bufo*. The records are from 2011 and 2012, with the closest record of smooth newt c. 0.7km south east across the A4177, Grand Union Canal and railway. The common toad records are provided from the Hatton Hill Fields LWS.

#### Great crested newt

4.30 No records of great crested newt (GCN) *Triturus cristatus* were provided by WBRC. However the desk study to identify ponds within 250m of the Site revealed two ponds, c. 15m and c. 195m east of the south east corner of the Site.

4.31 No ponds were present on Site and therefore no breeding opportunities occur within the site boundary for GCN. There is however the potential for GCN to use the site during the terrestrial phase of their lifecycle, if either ponds within the 250m radius of the site are found to support GCN.

#### <u>Invertebrates</u>

- 4.32 WBRC have provided six records of four invertebrate species within the search area, dating between 1981 2006. Those of potential relevance to the Site include white-letter hairstreak *Satyrium w-album*, due to English elm being present within the east boundary hedgerow, and two beetles *Anobium inexspectatum* and *Agrilus angustulus*, both found within Hatton Park, which are nationally notable.
- 4.33 Hedgerows and grassland margins both provide habitat for a range of invertebrates. However the Site is not thought to support a particularly notable range of species given that the majority of the Site is managed as arable land.

#### 5.0 ECOLOGICAL CONSTRAINTS & OPPORTUNITIES

#### **Ecological Constraints**

#### **Confirmed Constraints**

- 5.2 Avoidance, mitigation and/or compensation measures will be required for the following ecological constraints, with recommendations provided for each constraint in turn:
  - Ancient Semi-natural Woodland
    - Smith's Covert is listed as an Ancient Semi-natural Woodland and a suitable buffer should be included within any development of the northern part of the Site. Standing Advice from Natural England is to maintain a minimum 15m undeveloped buffer.
  - Hedgerows
    - These features should be retained as part of the proposals wherever possible, given their priority habitat status and intrinsic ecological value.
  - Nesting birds
    - Based on their legal protection, any clearance of potential nesting habitat should be undertaken outside of the bird nesting season (March-August inclusive), or immediately following confirmation by a suitably qualified ecologist that no active nests are present.

#### Potential Constraints

- 5.3 Avoidance, mitigation and/ or compensation measures may be required for the following potential ecological constraints, subject to further investigation and/ or surveys:
  - Bats
  - Reptiles
  - Great Crested Newts
- 5.4 Based on the potential ecological constraints identified above, Table 2 sets out recommendations for further work necessary to determine the need for and scope of any avoidance, mitigation and/ or compensation measures. The outcome of this further investigation and/ or survey work will inform an Ecological Assessment of the final scheme.

Table 2 Recommendations for further inspection/ survey

Inspection/ Survey	Timescales & Comments
Bat Activity Surveys	Transect surveys (two transects) across three seasons (e.g. May, June/July and September). In addition, in each season, two static detectors to be deployed to assess activity over a min. 5-day period, with the best 3 nights of data to be analysed and interpreted.
Great Crested Newt Habitat Suitability Assessment & Potential Further Survey	Any time of year. Assessment of two ponds identified within 250m of the site boundary to assess the need for further surveys. If further surveys are required, 4-6 surveys will need to be undertaken between mid-March and mid-June, at least half of which must be completed between mid-April and mid-May. (Four surveys are needed for presence/absence, and two more if GCN are found to estimate population size).
Reptiles	Seven surveys between April – September. Bitumen felt mats at least 0.5m x 0.5m in size will be laid along the margins of the arable fields to attract reptiles. Seven visits will be made to check for reptiles basking on or under the mats.
Hedgerow Surveys	Ideally within the optimal botanical period (June – July) to assess whether any of the hedgerows meet the ecological criteria for 'important' hedges under the Hedgerows Regulations 1997.

#### **Opportunities for Ecological Enhancement**

- 5.5 The following potential opportunities for ecological enhancement are identified (N.B. these are initial suggestions and are not an exhaustive list):
  - Tree and shrub planting to buffer the potential Wildlife Site, Smith's Covert, to the north of the site and to improve the hedgerows and copse on the southern boundary. This would enhance habitat connectivity and green infrastructure;
  - Incorporation of native plants and those of wildlife value in to landscaping scheme;
  - Bat roosting opportunities; and,
  - Bird nesting opportunities within the new development.

#### 6.0 CONCLUSIONS

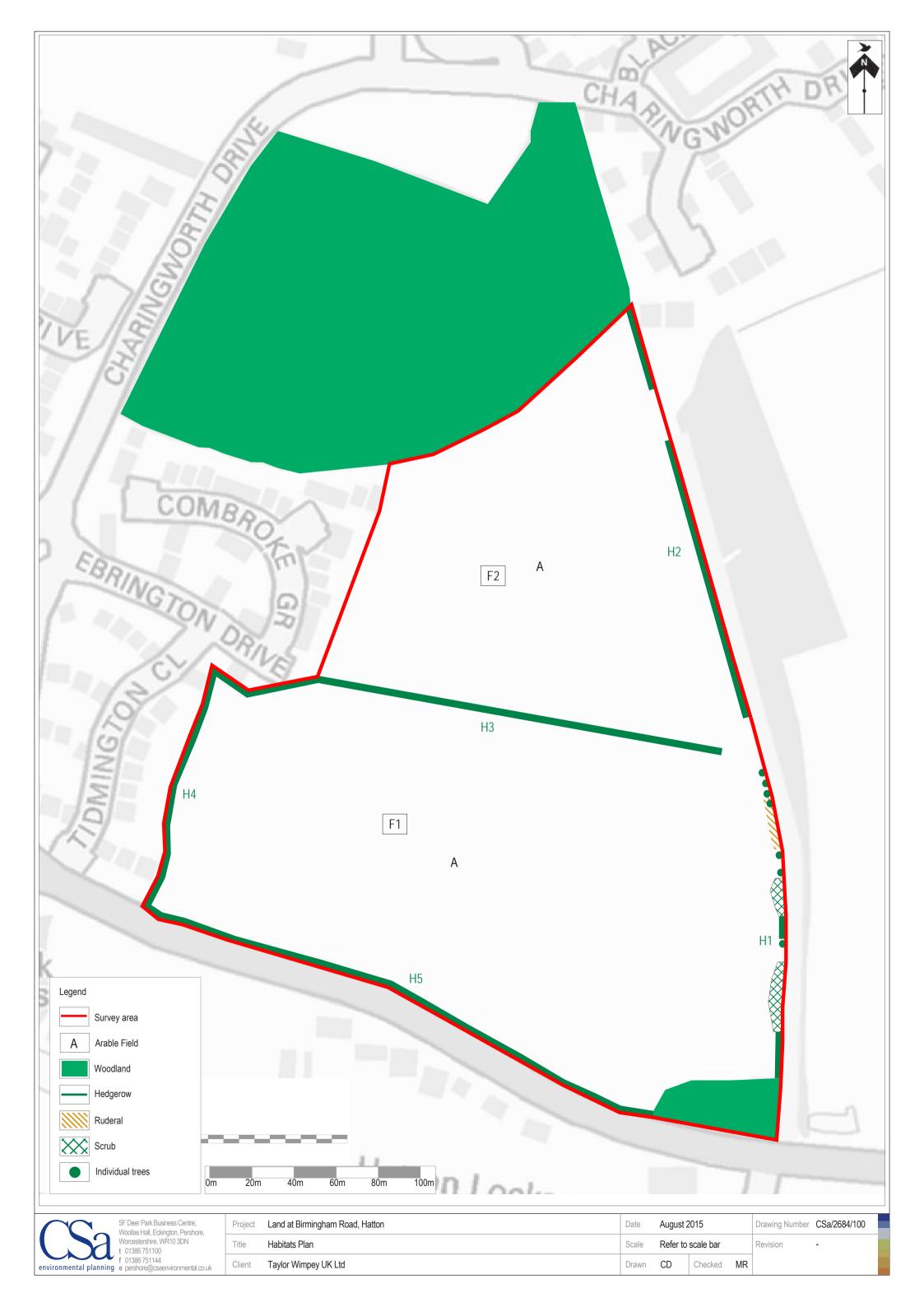
- 6.1 Confirmed ecological constraints to development at the Site are:
  - Smith's Covert Ancient Semi-natural Woodland; Smith's Covert Ancient Woodland is an irreplaceable habitat and supports mature trees and standing dead wood that could be used by bats. Standing Advice states that a minimum 15m buffer should be retained around Ancient Seminatural Woodland however in some circumstances larger buffers may be required<sup>8</sup>.
  - Hedgerows (H2 and H3). The initial site visit has identified that H2 and H3
    are potentially more species rich than other hedgerows on site. Wherever
    possible species rich hedgerows should be retained and protected by
    suitable masterplan design, and
  - Nesting birds Hedgerows across the site provide nesting habitat for several bird species.
- 6.2 The following additional investigation/ survey work is considered necessary to inform a full ecological impact assessment of development at the Site:
  - Bat surveys;
  - Reptile surveys;
  - GCN scoping and surveys; and,
  - Hedgerow assessment.
- 6.3 Recommendations for ecological enhancement measures that could be delivered as part of development at the Site have been provided above.

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<sup>&</sup>lt;sup>8</sup> Forestry Commission England and Natural England (2014). Standing Advice for Ancient Woodland and Veteran Trees. StAdv/AWVT/NE/Apr2014

## Appendix A

Habitats Plan & Photosheet





**Plate 1:** Across site from south east corner towards north west.



Plate 2: Bare ground in south east corner by access.



**Plate 3:** View of central and eastern hedgerow from north.



Plate 4: Eastern hedgerow and grass margin.



Plate 5: Southern hedgerow and grass margin.



**Plate 6:** From central hedgerow towards woodland on north boundary.

## Appendix B

Legislation and Planning Policy

## Legislation

The Conservation of Habitats and Species Regulations 2010 (as amended) enacts the Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, and Council Directive 79/409/EEC on the Conservation of Wild Birds, into UK law. The Regulations allow for the designation of Statutory Nature Conservation sites (SACs and SPAs) and European Protected Species ('EPS' including all UK bat species, great crested newt, hazel dormouse and otter) which are assigned a greater level of protection than under national legislation.

The **Wildlife and Countryside Act 1981** (as amended) forms the primary piece of UK legislation relating to the protection of habitats and species (including nesting birds, reptiles and water vole). Additionally, badgers are protected under the **Protection of Badgers Act, 1992.** 

Section 40(1) of the Natural Environment and Rural Communities (NERC) Act 2006 states that each public authority "must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity". This legislation makes it clear that planning authorities should consider impacts to biodiversity when determining planning applications, with particular regard to the Section 41 list of 56 habitats and 943 species of principal importance, irrespective of whether they are covered by other legislation. The S41 list was taken forward for action under the UK BAP (first published in 1994). The UK BAP has now been superseded by the Biodiversity 2020 Strategy9, which continues to prioritise the S41 list, setting national targets for the period to 2020, and the UK Post-2010 Biodiversity Framework<sup>10</sup>, which shows how these contribute to targets at the European level. Whilst BAPs are therefore no longer formally recognised, many of the tools and resources originally developed for the BAP remain in use, such as the background information which still forms the basis of work at national level.

## Planning Policy

**National Planning Policy Framework (2012)**<sup>11</sup> (NPPF) sets out the government planning policies for England and how they should be applied. With regards to ecology and biodiversity, Chapter 11: Conserving and Enhancing the Natural Environment, paragraph 109, states that the planning system and planning policies should:

<sup>&</sup>lt;sup>9</sup> Defra (2011) Biodiversity 2020: A strategy for England's wildlife and ecosystem services. Defra, London <sup>10</sup> JNCC and Defra (2012) UK Post-2010 Biodiversity Framework (on behalf of the Four Countries' Biodiversity Group). July 2012.

<sup>11</sup> Department for Communities and Local Government (2012) National Planning Policy Framework

- Minimise impacts on, and provide net gains in, biodiversity where possible, "contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures".
- Recognise the wider benefits of ecosystem services.

Under these aims, paragraph 117 states the need to plan for biodiversity at a landscape scale, linked to national and local targets. Paragraph 118 sets out the principles that local planning authorities should apply when determining planning applications:

- Refuse planning permission if significant harm cannot be avoided, adequately mitigated, or, as a last resort, compensated for
- Encourage opportunities to incorporate biodiversity in and around developments
- Permission should not normally be permitted where an adverse effect on a nationally designated Site of Special Scientific Interest is likely, either individually or in combination with other developments
- Refuse planning permission if development will result in the loss or deterioration of irreplaceable habitats, such as ancient woodland and the aged or veteran trees, unless the need for, and benefits of, the development in that location clearly outweigh the loss

The **Government Circular 06/2005**, which is referred to within the NPPF, defines statutory nature conservation sites and protected species as a material consideration in the planning process.

Local planning policies are of relevance to ecology, biodiversity and/or nature conservation have been set out in Table B.1 below.

Table B.1. Summary of regional and local planning policy relating to ecology

Policy	Summary		
Warwick district Local Plan 1996 – 2011 – Saved Policies			
Policy DAP2: Protecting the Areas of Restraint	Development will not be permitted within the Areas of Restraint, as defined on the Proposals Map, where it would harm or threaten the generally open nature of the area.		
Areas of Restraint  Policy DAP3: Protecting Nature Conservation, Geology and Geomorphology.	Development will not be permitted which will destroy or adversely affect the following sites of national importance:  a) designated Sites of Special Scientific Interest (SSSIs). Currently designated sites are shown on the Proposals Map; Development will be strongly resisted that will destroy or adversely affect the following locally important sites/features:-  b) designated Ancient Woodlands. Currently designated sites are shown on the Proposals Map;  c) designated Local Nature Reserves (LNRs). Currently designated sites are shown on the Proposals Map;  d) any other sites subject to a local ecological or geological/geomorphological designation unless the applicant can demonstrate that the benefits of the proposal significantly outweigh the ecological/geological/geomorphological importance of the area;  e) protected, rare, endangered or other wildlife species of conservation importance.  In assessing the effect of development on a nature conservation or geological/geomorphological site in relation to b), c), d) and e), proposals will not be permitted unless the applicant can 113 Warwick District Local Plan 1996 – 2011 Chapter 9: Designated Area Policies demonstrate that consideration has been given to any mitigation and compensatory measures proposed that take account of the importance of the site/species, the extent to which ecological, geological or geomorphological impact is minimised, the nature of the measures		
	proposed, and proposed long term management of features/sites/habitats of ecological/ geological/ geomorphological importance.		

## Appendix C

**Desk Study Information** 

#### 7/2/2015

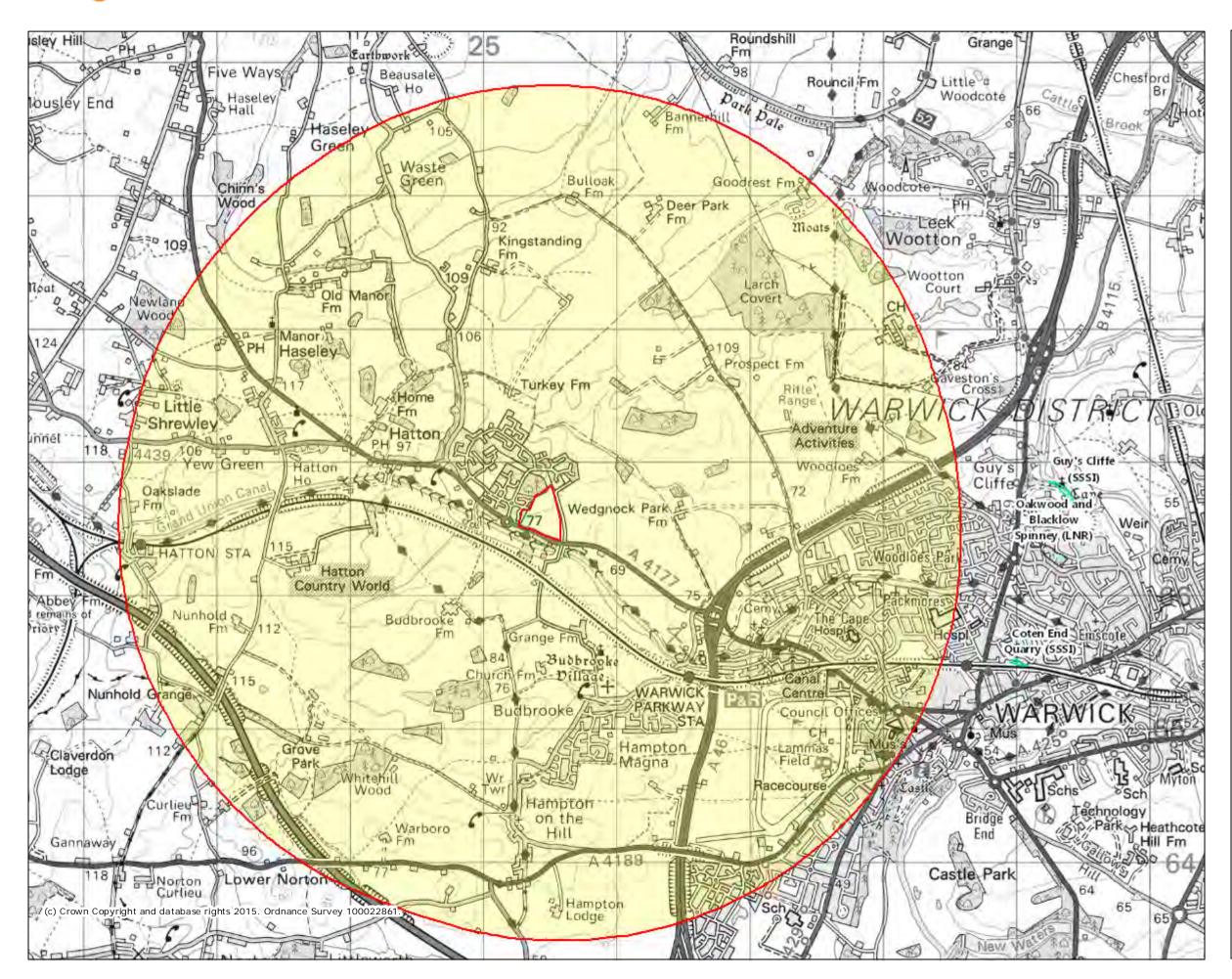
Site Check Report Report generated on Thu Jul 02 2015 You selected the location: Centroid Grid Ref: SP254666 The following features have been found in your search area:

Local Nature Reserves (England) No Features found

National Nature Reserves (England) No Features found

Sites of Special Scientific Interest (England) No Features found





## Legend

Local Nature Reserves (England)

National Nature Reserves (England)

Sites of Special Scientific Interest (England)

Projection = OSGB36

xmin = 419000

ymin = 263200

xmax = 433000ymax = 270300

Map produced by MAGIC on 2 July, 2015.

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#### 7/2/2015

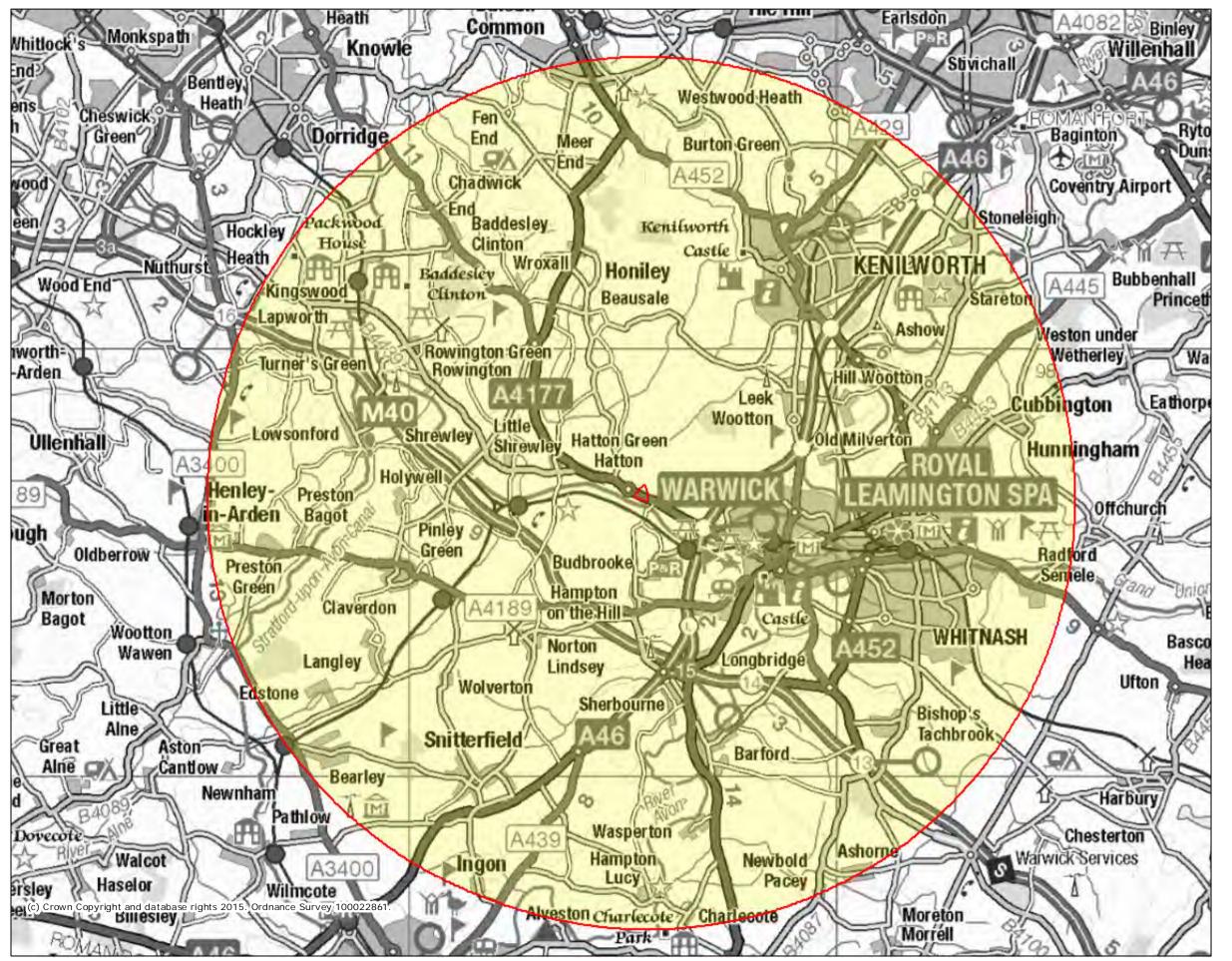
Site Check Report Report generated on Thu Jul 02 2015 You selected the location: Centroid Grid Ref: SP254666 The following features have been found in your search area:

Ramsar Sites (England) No Features found

Special Areas of Conservation (England) No Features found

Special Protection Areas (England) No Features found





## Legend

Ramsar Sites (England)

Special Areas of Conservation (England)

Special Protection Areas (England)

Projection = OSGB36

xmin = 402500

ymin = 255400

xmax = 446900ymax = 278300

Map produced by MAGIC on 2 July, 2015.

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#### WARWICKSHIRE BIOLOGICAL RECORDS CENTRE



## Ecological Data Search: Land at Hatton, Warks SP 253 666 Species custom search

- ★ Ba
- \* Amphibian / Reptile
- Barn Owl
- White Clawed Crayfish
- Otte
- Water Vole
- Dormouse
  - Notable Mammal
- Notable Bird
- Motable Invertebrate
- County Rare Plant
- Native Black Poplar
- Veteran Tree
- W&C Act Schedule 9 (Invasive)

Warwickshire Biological Records Centre Warwickshire County Council PO Box 43, Warwick CV34 4SX Tel: (01926) 418060

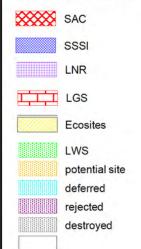
and may lead to prosecution or civil proceedings.

Kingstanding of Deer Park N Old Manor Brownley Green Deer Park Haseley Ste Old Park Haseley Blackbrake Hatton Nn Indet Af Bb Indet Indet Nn Indet Af Nn Af Nn Wednock Par 71 Oaklands Farm Industrial Estate Great Western Hatton Country World Budbrooke Grange Budbrooke Bb 🗼 Grove Grove Park This plan has been produced specifically to supply an individual with value added Local Authority information. Reproduction from the Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationery Office. © Crown Copyright and database right 2013. Ordnance Survey 100019520. Unauthorised reproduction infringes Crown Copyright

### WARWICKSHIRE BIOLOGICAL **RECORDS** CENTRE



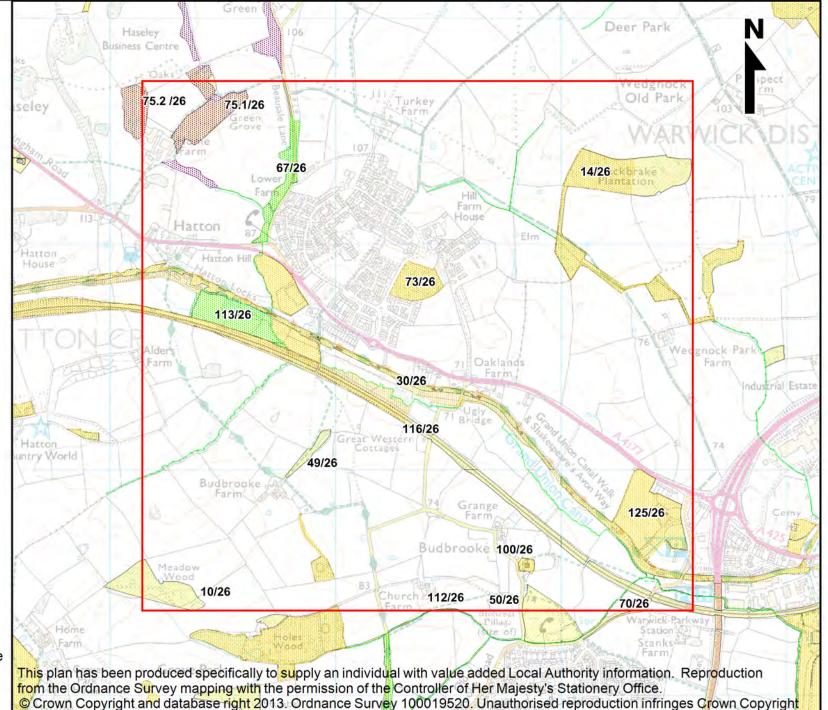
## **Ecological Data Search:** Land at Hatton, Warks SP 253 666 Sites custom search



Warwickshire Biological Records Centre Warwickshire County Council PO Box 43, Warwick CV34 4SX

and may lead to prosecution or civil proceedings.

Tel: (01926) 418060



## Appendix D

Extended Phase 1 Habitat Survey

Phase 1 Habitat survey- a technique for environmental audit<sup>12</sup> is a method of classification and mapping wildlife habitats in Great Britain. It was originally intended to provide "...relatively rapidly, a record of semi-natural vegetation and wildlife habitat over large areas of the countryside". Phase 1 Habitat Survey methodology has been widely 'extended' beyond its original purpose to allow the capture of information at an intermediate level between Phase 1 and Phase 2 Habitat surveys. For clarity, Standard Phase 1 Habitat Survey methodology has been 'extended' in this report to include the following:

- More detailed floral species lists for each identified habitat;
- Descriptions of habitat structure, the evidence of management and a broad assessment of habitat condition;
- Mapping of additional habitat types (e.g. hardstanding);
- Identification of Priority Habitats under Section 41 of the NERC Act;
- Identification of Habitats Directive Annex I habitat types;
- Evidence of, or potential for, the presence of the following species / groups:
  - European Protected Species (including bats, great crested newt, dormice and otter)
  - Birds
  - Reptiles
  - Water vole
  - Badger
  - Other mammals (including S41 Priority Species: hedgehog, harvest mouse and brown hare)
  - Other amphibians (including S41 Priority Species: common toad)
  - Notable, rare or protected plants
  - Notable, rare or protected invertebrates

\_

<sup>12</sup> JNCC (2010)

#### Results

Table D.1 Habitats and Flora Species List

	Phase 1	S41/	Flora	
Habitat	Reference Codes	Annex I status	Common name	Latin name
			Cock's foot	Dactylis glomerata
			False oat-grass	Arrenatherum elatius
			Perennial rye-grass	Lolium perenne
			Soft brome	Bromus hordeaceus
			Creeping bent	Agrostis stolonifera
			Barren brome	Bromus sterilis
			Creeping buttercup	Ranunculus repens
			Meadow vetchling Ribbed melilot	Lathyrus pratensis Melilotus officinalis
			Hairy tare	Vicia hirsuta
Daar aan:			Common vetch	Vicia riireata Vicia sativa
Poor semi improved grassland	B6		Common field	
margins	ВО	-	speedwell	Veronica persica
margins			Selfheal	Prunella vulgaris
			White clover	Trifolium repens
			Spear thistle	Cirsium vulgare
			Teasel	Dipsacus fullonum
			Dandelion	Taraxacum sp.
			Colt's-foot	Tussilago farfara
			Greater plantain	Plantago major
			Prickly sowthistle	Sonchus asper
			Forget-me-not sp Cut-leaved	Myosotis sp.
			cranesbill	Geranium dissectum
			Cianespin	
			Field beans	Vicia faba
		-	Ragwort	Seneco jacobaea
	J1.1		Swinecress	Leidium coronopus
			Shepherds purse	Capsella bursa- pastoris
Arable / disturbed			Sun spurge	Euphorbia helioscopia
ground			Scarlet pimpernel	Anagallis arvensis
			Scented mayweed	Matricaria
				chamomilla
			Black medick	Medicago lupulina
			Black grass	Alopecurus
			-	myosuroides
			Blackthorn	Prunus spinosa
	J2.1 / J2.2 / J2.4			Crateagus
			Hawthorn	monogyna
			Cherry	Prunus sp.
			Crab apple	Malus sylvestris
			Ash	Fraxinus excelsior
			Oak	Quercus robur
			Black bryony	Tamus communis
			White bryony	Bryonia dioica
Hedgerows		-	Brittersweet	Solanum dulcamara
			Privet Elder	Ligustrum vulgare
			Elm	Sambucus nigra
			Hazel	Ulmus minor Corylus avellana
				Acer
			Sycamore	pseudoplantanus
			Dogwood	Cornus sanguinea
			•	Geranium
			Herb Robert	robertianum

		Cleavers	Galium aparine
		Rose	Rosa sp.
			•
Woodland		False wood brome	Brachypodium sylvatica
		Primrose	Prunella vulgaris
		Ground ivy	Glechoma hederacea
		Violet	Viola sp.
		Wood avens	Geum urbanum
		Germander speedwell Red clover Hawthorn Oak Horse chestnut	Veronica chamaedrys
			Trifolium pratense
	A1.3		Crateagus monogyna
			Quercus robur
			Aesculus hippocastanum
		Elder	Sambucus nigra
		Willow	Salix sp.
		Pine sp.	Pinus sp.
		Laurel	Prunus laurocerasus
		Holly	llex aquifolium
		Garlic mustard	Alliaria petiolata
		Burdock	Arctium lappa
Scrub	A2	Bramble	Rubus fruticosus
Scrub	AZ	Rose	Rosa sp.
Ruderal		Broad leaved dock	Rumex obtusifolius
		Nettle	Urtica dioica
	С3	Hogweed Rosebay	Heracleum
			sphondylium Chamerion
		willowherb	angustifolium
		Great Willowherb	Epilobium hirsutum
		Nipplewort	Lapsana communis
		Redshank	Persicaria maculosa
		Neusilalik	i croicana macaiosa



Offices also at Milton Keynes and Ibstock

# Consulting Development Engineers

16<sup>th</sup> August 2016

Your Ref: Our Ref: AB/20586

#### BY EMAIL ONLY

Mr R. Crow Barton Willmore Regent House Prince's Gate 4 Homer Road Solihull B91 3QQ

Dear Russell,

#### SITE H28 - BIRMINGHAM ROAD, HATTON, WARWICKSHIRE

Further to your recent email I am writing in respect of the above site and to provide a response to a question posed by the Inspector as part of Warwick Local Plan EiP. My understanding is the following question has been put forward:

What are the infrastructure requirements/costs and are there physical or other constraints to development? How would these be addressed?

When considering technical matters, it is our view there are no physical constraints to the development of this site and a proposed development of 120 dwellings. This is summarised as follows:

- Highways Access can be achieved onto Birmingham Road through the creation of a
  T-junction with right turn lane. The junction can be accommodated within the
  existing highway boundary or land under the control of Taylor Wimpey UK Ltd. The
  development is in a sustainable location with bus services and local amenities and
  facilities available. Infrastructure payments of £6000 per dwelling will be made to
  satisfy off site highway impacts.
- **Flood Risk** The site is located in Flood Zone 1 and no other significant sources of flood risk are identified.
- Drainage Surface water drainage will be accommodated through the provision of
  onsite attenuation features with discharge to a surface water sewer located within the
  site boundary. Foul flows are likely drain to the existing sewer network in
  Birmingham Road and due uncertainties over manhole and sewer levels a pumping
  station is shown at this time.
- Noise Some mitigation may be required in the form of glazing to protect internal
  noise standards and dwelling orientation to protect rear garden standards however it
  is considered unlikely noise will have a significant adverse impact on the
  development of this site.



- Land Contamination The site is unlikely to be classified as contaminated land.
- **Utilities** All principal utilities (gas, electric, drainage and telecommunications) are located within close proximity of the site. Only a 1200mm surface water sewer is located within the site boundary and this will remain with a 10m easement. Capacity within the network is likely to be available subject to suitable upgrades being implemented at the developers cost. Diversion of existing water mains, underground electric cables and underground BT telecommunications cables within Birmingham Road are likely to be required to facilitate access but these do not pose a constraint to development.

In respect of principal infrastructure requirements and costs these are outlined below although please note the costs are estimated at this time:

Item	Comments	Costs (estimated)
Access	Right turn lane	£175,000.00
Footway connections	Connections east and west of	£50,000.00
	development area	
2 x bus stops	Assumed to new bus stops close to the	£50,000.00
	site with shelters	
Public Rights of Way	Aware of standard 1.5 mile radius	£20,000.00
	contribution requirement from	
	Warwickshire County Council	
Travel Packs	Travel packs at £75 per dwelling	£9,000.00
Offsite highways	IDP contribution which is required by	£720,000.00
	Warwickshire County Council @ £6000	
	per dwelling	
		M(0.000.00
Attenuation basin	2,900m3 @ £50m3 plus hydrobake and headwalls	£160,000.00
Pumping station	To achieve foul drainage connection	£75,000.00
Utility connections	Electricity and Gas (combined)	£150,00000
	Water Supply	£0.00
Utility Diversions	Telecommunications (BT)	£50,000.00
	Electricity	£50,000.00
	Water Mains	£50,00000
		£1,559,000.00

We trust the above is sufficient for your needs however should you have any queries please do not hesitate to contact me.

Yours sincerely,

Alexander Bennett Bsc (Hons) MCIHT MTPS

**Director** 

alex.bennett@m-ec.co.uk

Alexal Sat.



# PROPOSED RESIENTIAL DEVELOPMENT BIRMINGHAM ROAD, HATTON, WARWICKSHIRE

# **TECHNICAL REPORT**

**APRIL 2016** 

REPORT REF: 20586/04-16/4327



# PROPOSED RESIDENTIAL DEVELOPMENT BIRIMINGHAM ROAD, HATTON, WARWICKSHIRE

## **TECHNICAL REPORT**

### **APRIL 2016**

REPORT REF: 20586/04-16/4327

CLIENT: Taylor Wimpey UK Ltd

ENGINEER: Mewies Engineering Consultants

Wellington House Leicester Road

Ibstock

Leicestershire LE67 6HP

Tel: 01530 264753 Email group@m-ec.co.uk

Report Prepared By:

Alexal > C1#

Alexander Bennett BSc (Hons) MCIHT MTPS

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#### **CONTENTS**

- 1.0 INTRODUCTION
- 2.0 HIGHWAYS AND TRANSPORT
- 3.0 FLOOD RISK AND DRAINAGE
- 4.0 NOISE
- 5.0 LAND CONTAMINATION
- 6.0 UTILITIES
- 7.0 SUMMARY

#### **APPENDICES**

- A. SITE LOCATION PLAN
  LOCAL PLAN ALLOCATION
- B. HIGHWAY BOUNDARY DATA
- C. DRAWING 20586\_08\_020\_01 PROPOSED DEVELOPMENT ACCESS LAYOUT
- D. DRAWING 20586\_08\_010\_01 KEY LOCAL FACILITIES & PEDESTRIAN CATCHMENT PLAN
- E. DRAWING 20586\_08\_010\_02 LOCAL PUBLIC TRANSPORT ACCESSIBILITY PLAN
- F. DRAWING 20586\_01\_230\_01 PRELIMINARY DRAINAGE STRATEGY
- G. HISTORICAL MAPS
- H. APPARATUS PLANS

#### 1.0 INTRODUCTION

- 1.1 Mewies Engineering Consultants Ltd (M-EC) has been commissioned by Taylor Wimpey UK Ltd to produce this Technical Report in support of the continued promotion of Land off Birmingham Road, Hatton and its suitability for residential development. A site location plan is provided in Appendix A.
- 1.2 The site is allocated in the emerging Warwick Local Plan for 120 dwellings and the site area is shown on the Local Plan allocations plan for Hatton contained in Appendix A. The total proposed developable area, excluding the Smith's Covert to the north, measures 7.61ha and a proposed Framework Plan for the site is shown in Figure 1 below.

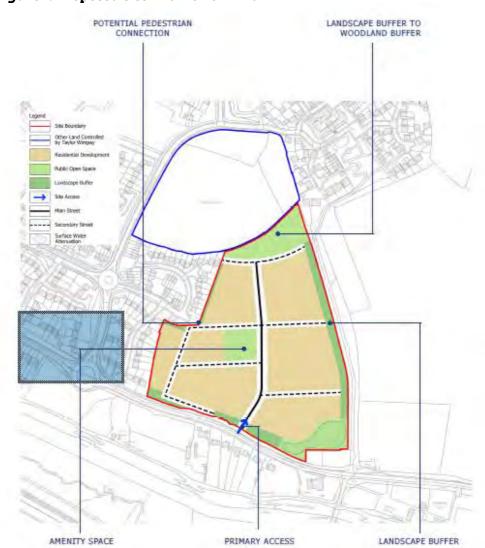


Figure 1: Proposed site Framework Plan

- 1.3 The site is bounded by Birmingham Road to the south, Ugly Bridge Road to the east, Smith's Covert to the north and an existing residential area to the west focused on Ebrington Drive. Importantly all sides of the site have logical and permanent boundaries, which sensibly add to the built form of Hatton Park. Hatton is located approximately 3.5km south east of Warwick. The site is currently in agricultural use and centred within grid reference 425447, 266602.
- 1.4 As part of this report the following technical disciplines have been considered:
  - Highways and Transportation
  - Flood Risk and Drainage
  - Noise
  - Land Contamination
  - Utilities
  - Preliminary Construction and Environmental Management Plan
- 1.5 All work is based on initial observations however; further technical work will be required to support any future planning application. For the purpose of this appraisal we have assumed deliver of the site in isolation and therefore not reliant on wider land options.
- 1.6 M-EC has completed this report for the benefit of the individuals referred to in paragraph 1.1 and any relevant statutory authority which may require reference in relation to approvals for the proposed development. Other third parties should not use or rely upon the contents of this report unless explicit written approval has been gained from M-EC.
- 1.7 The report has been prepared using published information and information provided by the Client which was made available at the time of writing only. No liability is extended to any information which has become available since this time. Third parties using information contained in this report do so at their own risk.
- 1.8 M-EC accepts no responsibility or liability for:
  - a) The consequence of this documentation being used for any purpose or project other than that for which it was commissioned;
  - b) The issue of this document to any third party with whom approval for use has not been agreed.

#### 2.0 HIGHWAYS AND TRANSPORTATION

#### Access

- 2.1 Access to the land would be achieved from Birmingham Road where footways of varying width (approximately 1.5m to 2.5m) and a carriageway of approximately 7m in width are available. A verge with a ditch separates the site from the footway along the northern side of Birmingham Road. Birmingham Road is subject to a 40mph speed limit (although actual speeds may be higher based on the nature of the road) and street lighting is noted. A footway is also located on the southern side of the carriageway in similar width to that of the northern footway.
- 2.2 Highway boundary data has been purchased from Warwickshire County Council and highlights Birmingham Road, the ditch and footway as being adopted. It is also noted that part of the site falls within adopted highway at the south eastern boundary of the site. A copy of these plans can be found in Appendix B.
- 2.3 Discussions have been undertaken with Warwickshire County Council over the provision of access from Birmingham Road. Access will take the form of a T-junction with right turn lane and an initial design has been prepared and is shown on drawing 20586\_08\_020\_01, in Appendix C. The size of the right turn lane and associated junction visibility splays are based on the subjected speed limit of 40mph and these can be accommodated accordingly. A speed survey will be completed in due course to ensure no significant design variations will occur if speeds are higher than the subject speed limit. As part of the design new footways will be provided from the site onto Birmingham Road.
- 2.4 Good permeability within the site through inter-connecting streets will be provided as well as connections into surrounding areas. Wider connections will include:
  - Ebrington Drive (we note the area between the road and the site is not adopted highway but every effort will be made by Taylor Wimpey to secure pedestrian connections along this route)
  - Ugly Bridge Road (onto the existing footway/cycleway)
  - Birmingham Road (additional connections either side of the access road)

#### Sustainability

- 2.5 Pedestrian facilities are located to the north and south of the site as outlined on drawing 20586\_08\_010\_01 included in Appendix D.
- 2.6 Local facilities and amenities including a petrol station, convenience shop and village hall are located within a 2km walking distance of the site. The NPPF does not specify specific walking distances but we know 80% of the population will walk up to 1 mile (1.6km) and there has been no empirical evidence to suggest the previous 2km distance stated by PPG13 should not be considered reasonable. On that basis local facilities are considered to be within a reasonable walking distance of the proposed development.
- 2.7 Public transport (service 68) operates directly along Hatton Road and within Hatton Park on a 30 minute frequency, Monday to Saturday. The service, which is operated by Stagecoach, runs between Hatton Park and Cubbington, stopping at a number of locations including Warwick and Warwick Parkway Rail Station. Drawing 20586\_08\_010\_02 in Appendix E highlights the bus routes local to the site and these are within 400m walking distance of the site, although any connections onto Ebrington Drive will enhance connectivity.
- 2.8 Warwick Parkway Rail Station is located circa 2.8km southeast of the site, and can be directly accessed via the 68 bus service. The station, which is managed by Chiltern Railways, provides cycle storage provision and a 24 hour car park. The station can be used as part of a multimodal journey to towns and cities including Birmingham, Leamington Spa and Solihull, all located within an hour commute. Hatton Railway Station is located circa 1.7km from the site to its southwest however no bus service operates to this station.
- 2.9 Formal cycle provision is limited in Hatton as shown in Figure 2 below:
- 2.10 A local cycle route is noted to the south of Birmingham Road along the northern side of the canal which proceeds towards Warwick. Other cycle provision will take place on the local highway network which is deemed suitable to support cycle traffic.



Figure 2: Sustrans Cycle Map

2.11 The site is located in a sustainable location with local amenities available connected by pedestrian and cycle route. Good public transport services provide excellent connectivity to Warwick and Warwick Parkway Train Station which enable travel further afield.

### **Traffic Impact**

- 2.12 Discussions with WCC have indicated a Transport Assessment would be required to support any future planning application with the following junctions to be assessed:
  - A46/Birmingham Road roundabout
  - Old Budbrooke Road/Birmingham Road traffic lights
  - Charingworth Drive/Birmingham Road roundabout
  - Birmingham Road/B4439 T-junction
  - Birmingham Road/A4177/Five Ways Road/Case Lane roundabout
- 2.13 WCC have indicated the Transport Assessment would need to take account of local committed development sites and any committed highway improvements which will includes a growth funded scheme at the A46 roundabout and Old Budbrooke Road signals. As part of the transport work it is likely the development will be assessed using the WCC Warwick Highway Model.

- 2.14 WCC and WDC are aware of the cumulative impact of development in the district and collect monies, via Section 106, to pay for large scale infrastructure improvements on the network. This figure currently stands at £6,000 per dwelling and it is likely this will be requested to offset highway impact from the proposed development.
- 2.15 Suitable mitigation will be provided as part of the development proposals including any identified off site highway works and contributions. All assessment work and consideration of impact will be undertaken in line with the NPPF.

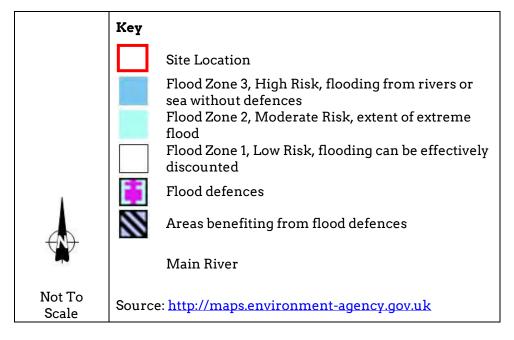
#### 3.0 FLOOD RISK AND DRAINAGE

3.1 The development sites lies in Flood Zone 1 (See Figure 3 below) and is therefore sequentially acceptable for development.



Figure 3: Environment Agency Flood Map for Planning (Rivers and Seas)

Note: Environment Agency flood maps give quidance on fluvial flood risk only for watercourses with a catchment of greater than 3km². Other information sources should be consulted for flood risk posed by ordinary watercourses with catchments less than 3km<sup>2</sup>



3.2 The surface water flooding maps (see Figure 4 below) show surface water accumulations occur along the eastern and south eastern boundary of the site following the natural topography towards the Grand Union Canal.

- 3.3 Overland flows route from the south eastern boundary of the site along Birmingham Road before continuing south towards the Grand Union Canal.
- 3.4 Within the boundaries of the site, 'low risk' areas occur across the south eastern boundary with a documented probability of occurrence ranging between 1 in 100 (1%) and 1 in 1000 (0.1%). 'High risk' and 'medium risk' flow areas occur just outside the eastern boundary of the site continuing towards the Grand Union Canal. These flow areas have a probability of occurrence of between 1 in 30 (3.3%) and 1 in 100 (1%) in any given year however, due to the topography of the land, flows proceed away from the site.

Ann We Fa

Figure 4: Environment Agency Surface Water Flooding Map

