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Date: October 2014

Land at Bishopton Lane,
Stratford-on-Avon,
Warwickshire

Protected Species Report

**SUPERSEDED
PENDING 2015
SURVEYS**

Prepared by:
CSa Environmental Planning

On behalf of:
Miller Strategic Land &
Taylor Wimpey UK Ltd

Report No: CSa/1957/06

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1.0 INTRODUCTION

- 1.1 The following report sets out the findings of ecological survey work undertaken by CSa Environmental Planning on behalf of Miller Strategic Land and Taylor Wimpey UK Ltd for land off Bishopton Lane, Stratford-upon-Avon. The surveys have been commissioned to assess the potential impacts of a proposed residential development on protected species at the site, following the recommendations of an Ecological Appraisal report produced by CSa in July 2012 (CSa/1957/01).
- 1.2 The survey area, henceforth referred to as the 'site' comprises three large arable fields bounded by hedgerows. There is also an area of semi-improved grassland at the far eastern end of the site, adjacent to the Stratford-upon-Avon Canal, which is uncultivated. Mature trees and ditches are associated with many of the hedgerows and a tree belt buffering the A46 runs along the northern boundary of the site.
- 1.3 It was concluded from the Ecological Appraisal survey that the habitats at the site have potential to be used by bats, badgers and breeding birds. Habitats at the eastern end of the site were also considered to have potential to support water vole and reptiles. Detailed species-specific surveys have therefore been undertaken to assess whether these species are present at the site and the findings are presented herein. This report also outlines the findings of a detailed hedgerow survey to assess whether any of the hedgerows qualify as 'Important' under the Hedgerows Regulations 1997. This report builds on the results of surveys already undertaken in 2012 for bats and badgers (within F1 only) and breeding birds and has been updated with new findings from 2014.

2.0 HEDGEROWS

Background Information

- 2.1 Thirteen native hedgerows have been identified at the site. A brief description of the hedgerows is given below. The hedgerows are labelled in reference to the Habitats Plan 1957/100B in Appendix A.

Table 1: Hedgerow descriptions at land off Bishopton Lane, Stratford-upon-Avon

Hedge	Brief description
H1	c.450m long, 3-4m high, side-flailed, planted hedge with semi-mature trees backing on to wooded road embankment.
H2	c.500m long, 5-6m high, side-flailed, planted mature hedge backing on to wooded road embankment. Encroaching blackthorn in F2 for much of hedgerow 1-3m wide.
H3	c.250m long. Flailed on field side with dry ditch and dense scrub on road embankment behind.
H3a	c.50m long. Flailed on field side, dense scrub on road embankment behind. Ditch with standing water leading to culvert.
H4	c.250m long, 1.5-2m high x 1.5-2m wide, regularly flailed mature double, laid hedge on a bank with ditch to west alongside road.
H5	c.250m long, 4-5m high x 3m wide flailed double hedgerow (laid in the past) on a bank, with c.75m deep dry ditch on south-western side, gappy in places.
H6	c.250m long, 4-5m high, side-flailed single, laid in past, gappy to the north with dead wood/scrub at the base. 2m wide x 0.5m deep dry ditch on west side. Mature horse chestnut, crab apple, field maple and laurel bushes at southern end by Spa Farm.
H6a	c.75m long. Old laid hedgerow 1.5m high x 1.5m wide, hard flailed.
H7	c.450 long, 1.5-2m high x 1-2m wide, flailed, mature, previously laid hedgerow. Parallel to the road with adjacent dry ditch and 2m wide verge. Includes mature ash, oak and single pear.
H8	c.500m long, 3-5m high x 3-4m wide, mature flailed hedge, semi-mature/mature trees. 1-2m headland, adjacent dry ditch with scrub and gappy in places.
H9	c.175m long, c.40m of Leylandii/laurel in south. Remaining hedgerow flailed/topped. 1.5m height x 1.5m wide. Gappy, some dead wood at the base. Dry ditch on road side.
H9a	c.75m long. 10m high Leylandii for 10m from H9 before gap of 10m. The remainder is comprised of 4-5m small broadleaf trees and mature gappy scrub.
H10	c.200m long, 1.5m high x 1m wide hard flailed hedgerow.

- 2.2 Hedgerows H7, H8 and H9 along the southern site boundary form part of a locally designated non-statutory wildlife site (Ecosite 105/15 Bishopton Lane) which has also been identified as a potential Local Wildlife Site (pLWS). The citation for this Ecosite states that “some of the roadside hedges are of high nature conservation value (and of some historic interest). Some of the hedges, although old, are of lower ecological value as they have been un-managed and

are now gappy with poor associated ground flora. A small area at the northern end includes associated grassland and tall herb habitat of local value". The habitats were classed to be of Parish value by WBRC.

Legislation

- 2.3 Most countryside hedgerows are protected under the Hedgerows Regulations 1997 from removal without prior permission from the Local Planning Authority (LPA). The Regulations set out criteria for determining whether a hedgerow is 'Important' or not as LPAs are able to order the retention of important hedgerows. Under these Regulations a hedgerow is important if it has existed for 30 years or more and satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations.
- 2.4 Hedgerows may also be indirectly protected by law where it forms habitat for legally protected species.
- 2.5 Native hedgerows are a habitat of conservation priority under Section 41 of the Natural Environment and Rural Communities Act, 2006 as well as a priority habitat within the Warwickshire Biodiversity Action Plan (currently under review) which, in part, aims to maintain the extent and condition of species-rich hedgerows, halt the loss of hedgerows and encourage the planting of new stretches of species-rich hedgerows.

Survey Methodology

- 2.6 In advance of a field survey, a desktop assessment of the length, connectivity, association with any bridleway/public footpath/byway and any biological records associated with the hedgerow was undertaken. Aerial photographs of the site and on-line mapping tools were used to determine the number and nature of connections associated with each hedgerow section (i.e. to other hedgerows, ponds or woodland). Any significant gaps along the hedgerows were also identified. Records obtained from the Warwickshire Biological Records Centre in April 2012 used to inform an Ecological Appraisal of the site were consulted for records of species associated within the hedgerow which fall under the following criteria:
- listed in Part 1 of Schedule 1 (bird species protected by special penalties) of the Wildlife and Countryside Act 1981;
 - those species listed in Schedule 5 (animals which are protected) of the Act;
 - those species listed in Schedule 8 the Act;
 - species categorised as a declining breeder (Category 3) in the Red Data Bird Britain), and
 - those species categorised as 'endangered', 'extinct', 'rare' or 'vulnerable' in one of the Red Data Books.

- 2.7 A field survey was then undertaken on 09 April 2013. The length of each hedgerow section was walked by Katie Critchley MCIEEM and the following features recorded:
- number of 'standard' trees ('standard' tree for the purpose of hedgerow assessment include single-stemmed and multi-stemmed trees. Only trees with a 20cm diameter at 1.3m high for a single stemmed tree, or 15cm for a multi-stemmed tree should be counted);
 - the presence / absence of hedge-banks, walls and ditches;
 - the integrity of the hedgerow; and
 - the woodland indicator species (ground flora only, woody species assessed separately) comprising the hedgerow including an area of up to 1m of the outermost edges of the hedgerow.
- 2.8 A repeat visit to update the hedgerow ground-flora was made on 18 July 2013 to ensure that later-flowering species would be included within the assessment.
- 2.9 Depending on the length of the hedgerow section, the hedgerow was then divided into the relevant number of 30m sections to be assessed for woody species.
- 2.10 The relevant 30m sections were measured out and the number of woody species within each section was recorded. A mean value for number of woody species for the hedgerow was then calculated.
- 2.11 This information was recorded on a standard Hedgerow Survey Sheet in each instance and a copy of these sheets is provided in Appendix B. The information gathered was used to determine whether each hedgerow section would qualify as 'important' under the Wildlife and Landscape criteria of the Hedgerows Regulations 1997 using the evaluation matrix (developed by ecologists with reference to the Regulations), which is provided at the end of the CSa Hedgerow Survey Sheet.

Survey Results

- 2.12 Six of the hedgerows assessed qualify as 'Important' under the ecology and landscape criteria of the Hedgerows Regulations 1997, as summarised in Table 2 below. Full results of the assessment are provided within Appendix B.
- 2.13 All other hedgerows except for H1 qualify as borderline Important, in that the presence of one additional woody species or landscape feature would cause it to fall into the Important category. This is primarily a result of the moderate to high species diversity within the hedges and the presence of ditches, banks and connecting habitats.
- 2.14 All hedgerows had at least one 30m section containing five or more woody species and can therefore be classed as species-rich, as defined within the

Hedgerow Survey Handbook¹. The most commonly occurring woody species include hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa*, oak *Quercus petraea*, ash *Fraxinus excelsior*, privet *Ligustrum vulgare*, hazel *Corylus avellana* and dog rose *Rosa canina*,

- 2.15 The ground flora associated with each hedgerow, as recorded over two seasons, was low with only H9 supporting three woodland species. Ground-flora species recorded at the site comprised wood avens *Geum urbanum*, lords-and-ladies *Arum maculatum*, wood false-brome *Brachypodium sylvaticum* and sweet violet *Viola odorata*.

Table 2: Summary hedgerow assessment results

Hedge Ref. No.	Length (m)	No. of additional features	Average No. of woody species	No. of woodland flora species	Species rich?*	Important?
H1	450	2	5	1	Yes	Not important
H2	500	2	6	1	Yes	Borderline
H3	250	3	6.3	0	Yes	Important
H3a	50	3	5	0	Yes	Borderline
H4	250	4	4.6	1	Yes	Borderline
H5	250	4	5.6	1	Yes	Important
H6	250	3	6	1	Yes	Important
H6a	75	1	6	1	Yes	Borderline
H7	450	3	8	1	Yes	Important
H8	500	3	8.3	2	Yes	Important
H9	175	3	7	3	Yes	Important
H9a	75	2	6	0	Yes	Borderline
H10	200	3	5.5	3	Yes	Borderline

* As described within the Hedgerow Survey Handbook: "where the structural species making up the 30m section of hedgerow include at least 5 (or at least four in northern and eastern England, upland Wales and Scotland) woody species that are either native somewhere in the UK, or which are archaeophytes, the hedgerow is defined as species-rich. Climbers and bramble do not count towards the total except for roses".

- 2.16 In addition, Hedgerows H7-H9 also qualify under the Archaeology and History criteria as they are associated with an entry within the Warwickshire Historic Environment Record, namely the Early Medieval Sealt Stret.

Discussion and Recommendations

- 2.17 The hedgerows H3, H5, H6 and H7- H9 all qualify as 'important' under the criteria set out for Wildlife and Landscape within Schedule 1, Part II of the Hedgerows Regulations 1997. All other hedgerows surveyed except for H1 qualify as borderline important. In such cases there is a reasonable likelihood

¹ Defra, 2007. *Hedgerow Survey Handbook. A standard procedure for local surveys in the UK.* 2nd edition. Defra, London

that a different surveyor or survey at a different season would result in the hedge being judged important. Hedgerows may also qualify as Important under other criteria e.g. archaeological.

- 2.18 Although the hedgerows appear to have a poor associated ground-flora, the importance of individual hedgerows is enhanced by the number of additional features, primarily relating to connections to other hedgerows, the presence of several standing trees, banks and ditches and the integrity of the hedgerow.
- 2.19 Hedgerows classified as 'important' (or borderline), should be retained and incorporated into the final design scheme wherever possible. They provide significant linkages and wildlife corridors to habitats across the site and the wider landscape. The 'important' hedgerows are not just of interest in terms of their own woody species diversity, but also provide important connections to the wider landscape, contributing to local green infrastructure.
- 2.20 Under current proposals, the majority of hedgerows are scheduled for retention alongside the development other than planned access routes into/within the site. Such impacts should be directed onto the less valuable stretches of hedgerow to minimise impacts to biodiversity, and compensatory planting will be undertaken as part of the new development. A suitable buffer of semi-natural habitat should be retained between hedgerows and built areas to minimise damage, shading and disturbance.
- 2.21 New native hedgerow planting, ideally to link semi-natural habitats, or infilling/strengthening existing stretches should be undertaken to compensate for loss of existing habitat.
- 2.22 Retained hedgerows and trees should be protected from accidental damage during construction in line with British Standards guidance BS5837:2012 – Trees in relation to design, demolition and construction. Recommendations.

3.0 BATS

Background Information

- 3.1 Biological records were requested from Warwickshire Biological Records Centre (WBRC) as part of the original ecological appraisal at the site in April 2012, and updated in May 2014. WBRC provided 98 records of bats within the data search, comprising details of nine species recorded between 1992 to 2013. Species recorded locally comprise common and soprano pipistrelle *Pipistrellus pipistrellus/ pygmaeus*, brown long-eared bat *Plecotus auritus*, noctule *Nyctalus noctula*, Leisler's bat *Nyctalus leisleri*, serotine *Eptesicus serotinus*, Natterer's *Myotis nattereri*, Daubenton's *Myotis daubentonii* and barbastelle *Barbastella barbastellus*, as well as some unidentified bat species.
- 3.2 Two records of brown long-eared bat (maternity roost) and common pipistrelle (in flight) have been provided for The Ridgeway area adjacent to the west of the site, from 2005. Bat detector records of common and soprano pipistrelle, noctule, Myotis and brown long-eared bat have been provided within close proximity to the site.
- 3.3 Twenty-five records of bat roosts have been provided within the search area. These are largely scattered within Stratford-on-Avon town centre and the surrounding suburbs. Seven roost records are given for within 1km of the site including the maternity roost of brown long eared bat c.60m west of the site mentioned above, a common pipistrelle bat roost c.570m to the west and five roosts of unconfirmed bat species between 450m and 900m from the site. These are predominantly of single bats or small numbers of droppings though one roost of 85 bats has been described from 2011.
- 3.4 A series of bat transect and automated detector surveys were undertaken within the western most field F1 during summer and autumn 2012, using the methodology described below. Results of these are incorporated within a Protected Species Report (CSa/1957/02) and are discussed briefly within this report in context with the results of updated survey work which re-surveyed F1 alongside other areas of the site. A ground-based tree assessment was also carried out within F1 on 10 September 2012 (reported on initially in CSa/1957/02). However, the results of this have been incorporated into results for the whole site undertaken in 2013 as they are unlikely to have changed significantly.

Legislation

- 3.5 All species of British bats are legally protected under Regulation 41 of the Conservation of Habitats and Species Regulations 2010. These Regulations make it an offence to:

- Deliberately capture, injure or kill a bat;
 - Deliberately disturb bats, impairing their ability to survive, breed, reproduce or rear/nurture their young;
 - Damage or destroy a breeding site or resting place used by bats; or
 - Be in possession of, transport, sell, exchange or offer to sell/exchange a bat (dead or alive) or any part of a bat.
- 3.6 All bats and their roosts in England, Scotland and Wales were originally protected under Schedule 9 of the Wildlife & Countryside Act 1981. Subsequent amendments to the legislation for England and Wales has removed bats from most of the provisions of the Act, however it remains an offence to:
- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection; or
 - Intentionally or recklessly obstruct access to any structure or place that a bat uses for shelter or protection.
- 3.7 Disturbance of bats is covered by both the 2010 Regulations and the Wildlife and Countryside Act 1981 (as amended), with the magnitude of disturbance critical. Disturbance that impairs survival or successful reproduction would be covered by the Regulations with no legal defence existing. Less significant acts of disturbance may only be covered by the Wildlife & Countryside Act 1981, which includes some legal defences that may be applied in certain circumstances.
- 3.8 It is important to note that bat roosts are protected throughout the year, regardless of whether or not bats are present at the time. Under the Conservation of Habitats and Species Regulations the offence of damaging or destroying a breeding site or resting place of bats is not subject to any legal defence, i.e. an offence will have been committed even if the damage or destruction occurs accidentally.
- 3.9 The penalties for conviction of any of the above offences are a fine of up to £5000 per incident or per bat and/or up to six months imprisonment. Forfeiture of any items used to commit the offence may also occur, such as vehicles, plant, etc.

Survey Methodology

Tree Assessment for Bat Roost Potential

- 3.10 Trees within F1 were subject to a ground-based visual assessment on 10 September 2012 by experienced bat surveyor Katie Critchley MCIEEM for their potential to support roosting bats. An assessment of the remaining trees in F2 and F3 was undertaken by Kate Kibble GradCIEEM on 04 April 2013. Trees within the road verge along Bishopton Lane were also included as it was sometimes unclear if these were associated with the site hedgerow. Trees have

been individually referenced using the Tree Constraints Plans – ‘The Tree and Woodland Company’ (Drawing no: 1028-D-001 to D-004).

- 3.11 Trees were individually assessed from the ground using close focusing binoculars. The potential of each tree to support bats was assessed using a categorisation system based on the protocol for visual inspection of trees provided in the Bat Mitigation Guidelines²
- Category 1*: trees with multiple, highly suitable features capable of supporting larger roosts. This may include rot holes, cracks/splits, woodpecker holes and loose bark features which appear to provide cavities suitable for roosting bats.
 - Category 1: trees with definite bat potential, supporting fewer suitable features than category 1* trees or with potential for use by single bats.
 - Category 2: trees with no obvious potential, although the tree is of a size and age that features which may not be visible from ground level may be present; or tree supports features that may have limited potential to support bats.
 - Category 3: trees with no potential to support bats.

Bat Activity Surveys

- 3.12 Three dusk bat activity surveys were carried out across the site on 21 May, 18 June and 18 July 2013. Each survey was undertaken by four experienced surveyors led on each occasion by licensed bat worker and in-line with Bat Conservation Trust good practice guidelines¹.
- 3.13 This built on bat survey work undertaken in 2012 for F1, which took the form of seasonal transect surveys to assess the general level of bat activity in this part of the site. Three transect surveys were carried out on 21 June, 05 July and 13 September 2012 and in each month which involved two surveyors walking transects covering the boundary hedgerows, field margins and central tramlines of F1.
- 3.14 All surveys were undertaken during suitable weather conditions (see Table 4) and began approximately fifteen minutes before sunset (British Summer Time), continuing for two hours after sunset. During this time, each surveyor walked a circular transect route which incorporated several pre-selected five-minute stop-points. The routes and location of stop-points are shown on the Bat Survey Transect Plan 2013 (CSa/1957/107) in Appendix C. Transects located within arable fields were designed to include boundary hedgerows and field margins, as well as open field habitats where possible. Transect 4 at the eastern end of the site also incorporated canal-side and grassland habitats. The direction walked during each transect was altered on each visit to ensure that different parts of the survey area were covered at key periods.

² Hundt, L. (2012) *Bat Surveys: Good Practice Guidelines*, 2nd edition, Bat Conservation Trust, London

- 3.15 Details relating to the species identified and their behaviour, where possible, was noted together with the time. The surveyors were aided by broadband Batbox Duet detectors and calls were also recorded using AnaBat SD1 or EchoMeter 3 (EM3) detectors. The recordings were then downloaded and analysed using the computer software Analoow v.3.8.22W to help to confirm species identifications.
- 3.16 A qualitative assessment of bat activity at the site was made based on surveyor observations such as direction of flight, numbers of bats or type of activity i.e. foraging/commuting observed during the survey. The qualitative assessment considers bat activity observed at transect points and that seen and detected whilst walking the set route between transect points.
- 3.17 A quantitative analysis of the data recorded during the transect surveys was also undertaken to assess the relative abundance of bat species across the site. The data files downloaded from the surveys were individually labelled by species recorded. Each bat file is considered to represent a 'bat pass' for analysis purposes. As each transect point was sampled for a known period, the number of bat passes per minute is calculated for each transect point, separated by bat species. Bat passes recorded by surveyors whilst walking between survey points are not included in the analysis, but are taken into account within discussion of the results.

Static monitoring of bat activity

- 3.18 Additionally, four Wildlife Acoustic SongMeter (SM2) recorders were positioned within hedgerows H6, H10, H8 and H4 for between three and six nights in May, June and July to supplement the bat activity data acquired. These detector positions are referred to as SM2 locations A, B, C and D respectively as shown on the Bat Activity Survey Plan 2013. The detectors were programmed to record for the whole night period to include dusk and dawn. The actual duration of recordings varies depending on night-length and time of year and this is taken into account during analysis.
- 3.19 Weather data for all nights that SM2s were deployed was obtained to help select the three most suitable nights for bat activity, to be taken forward for analysis. This was a qualitative judgement based on a combination of temperature, wind speed and precipitation. Data was taken from Met Office on-line records for Pershore, the closest weather station to the site. A summary of these weather data for the static recording periods is provided in Table 5. Analysis was also undertaken using the number of bat 'passes' as calculated from the number of recorded files containing a bat call. The longer time periods covered by the static recordings allow a more accurate assessment of bat species diversity at the site to be made, when compared to transect survey results in isolation.
- 3.20 Two SM2s were also deployed within hedgerows H1 and H5 for three or four nights within June, July and September 2012.

Survey Limitations

- 3.21 During the final transect survey in July, the oilseed rape crop within F2 was too dense to allow surveyors access to the centre of the field via tramlines, this was resolved by readjusting the transect routes and sample points slightly as follows. Transect points 2C and 3F could not be surveyed and instead of individual surveyors walking Transects 2 and 3 separately; two surveyors took a single circular transect around the field margins with opposite sides of the route being surveyed by each surveyor at any one time. Hence, the overall survey effort at Transect points 2C and 3F in the centre of the field (see Appendix C) appears to be lower than for other transect points, and higher around the boundaries of F2. This has been taken into account when considering the assessment of the data and results.
- 3.22 Cold nightly temperatures were experienced during the May transect and static monitoring period which is likely to have affected bat activity. Furthermore, equipment failure during this monitoring period meant that only two nights of data were available for analysis, though this has been accounted for within further analysis.

Survey Results

Formal Assessment of Trees

- 3.23 A total of 75 trees across the site were assessed for their potential to support roosting bats. Most trees are fairly young standards associated with the hedgerows or verge planting though a number of large mature trees are present, particularly along Bishopton Lane and within the hedgerows around F3 and F4. Of these, one oak *Quercus* sp. tree adjacent to Spa Farm was classed to be Category 1* by exhibiting several lateral cracks and broken braches where bats could possibly roost. Two further trees were classed to be of Category 1 roosting potential: an oak and field maple *Acer campestre* south of H10 and within H6, respectively. Thirteen trees were assessed to be Category 2 due to the presence of limited features with bat potential. Three trees were found to have been coppiced to ground level and of no relevance to the assessment whilst the remaining trees were either young or in good condition with negligible potential for bat roosting (Category 3). A summary of trees found to support definite bat roosting potential is given in Table 3 below, with full results of the assessment provided in Appendix D.

Table 3: Summary of trees identified as having Category 1*-1 bat potential

Tree ID	Species	D.B.H (m)	Description of features	Category
59	Oak	1.1	Lateral cracks and broken branches. Multiple possible roosting locations.	1*
52	Field Maple	0.58	Trunk of tree mostly dead with some living branches. Potential present in cracks and hollows though these appear damp and exposed from ground level.	1

66	Oak	0.99	Mature tree with dead and 'blown-out' limb which may offer potential. Woodpecker hole and other dead wood visible.	1
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Bat Activity Surveys

- 3.24 The weather conditions experienced during the three 2013 surveys were largely suitable for bat activity as summarised in Table 4 below, though temperatures at the end of the May survey were near the lower limit for bat activity.
- 3.25 A minimum of six bat species were recorded during the surveys: common pipistrelle, soprano pipistrelle, *Myotis* bats, brown long-eared bat, serotine and noctule. Some other bat calls could also not be identified to species-level due to overlap in the characteristic frequency of the calls, either between pipistrelle bats (referred to as *Pipistrellus* sp.) or between noctule *Nyctalus noctula* and Leisler's bat *N. leisleri* (*Nyctalus* sp.) Full survey results are presented within Appendix E.

Table 4: Summary weather data for bat activity surveys

Survey date	Sunset time (BST)		Time (hours)	Temp (°C)	Precipitation and cloud cover (oktas)	Wind (Beaufort Scale)
21/05/2013	21:04	Start	20:54	13	Dry, cc=1	1
		End	23:04	11	Dry, cc=8	0
18/06/2013	21:31	Start	21:16	17	Dry, cc=4	1
		End	23:31	18	Dry, cc=8	0
18/07/2013	21:18	Start	20:59	22	Dry, cc=0	1
		End	21:18	18	Dry, cc=0	0

- 3.26 The highest level of bat activity was recorded from noctule bats in May with 83 passes recorded across the site during the survey though due to the loud and wide-ranging call of this species, an individual can be detected at several locations on the ground. Common and soprano pipistrelle bats were otherwise the most frequently encountered species, and were recorded in similar numbers on each survey with a total of between 22 and 63 passes. Most activity by these species was recorded along H5 with the A46 corridor and H6 also regularly used for foraging and commuting purposes. A common flight line for common and soprano pipistrelles was noted during the June survey with eight bats seen commuting north along the eastern side of H5, through the central gap in the hedgerow and continuing along the west side. No pipistrelle bat calls were recorded in the south-west corner of F1 at any time and only a small number of contacts were made in open crop areas or south-easterly transect points in F3/4.
- 3.27 Noctule bats were consistently recorded at low levels during the remaining surveys with the peak of 1.6 passes per minute recorded in May. Individuals were seen commuting over the site as well as foraging over the arable fields and grassland within F4.

- 3.28 Three passes by a serotine bat were recorded in July along the southern boundary of F4. One pass by a brown long-eared bat was recorded briefly on each survey adjacent to the A46 corridor or on the east side of H5. However, this species has a quiet echolocation call and is likely to be underrepresented.
- 3.29 *Myotis* sp. bats were recorded in low numbers utilising hedgerows for foraging/commuting along all transect routes. Only single passes were ever recorded at the stop-points with a peak of 0.1 passes per minute.
- 3.30 A similarly low level of bat activity was recorded within F1 during 2012 where common and soprano pipistrelle bats, noctule and brown long-eared bats were recorded. Activity was mostly confined to the field margins and hedgerows though noctule bats were regularly witnessed foraging or commuting over the interior of the farmland. An offsite common pipistrelle bat roost was identified within houses on Ridge Way adjacent to the east of the site with a minimum of three bats confirmed to have emerged from integral roost units on the buildings.

Static Monitoring of Bat Activity

- 3.31 Bat activity was monitored for a total of 13 nights through May, June and July 2013 with data from the most suitable three nights in each month analysed for bat activity. The weather conditions experienced during these nights is presented within Table 5 below.

Table 5: Summary weather conditions for static bat monitoring 2013*

Survey month	Dates sampled	Overnight temperature (°C)		Rain/cloud	Wind (mph)
		Min	Max		
May	21/05/13	5	8	Mostly cloudy	1-5
	22/05/13	4	8	Cloudy then clear from 01:00	7-11
	N/A - No data				
June	18/06/13	15	17	Hazy	0-3
	19/06/13	15	15	Cloudy	4-6
	23/06/13	8	12	Partly cloudy	4-5
July	12/06/13	13	18	Clear then misty near dawn	2-3
	13/06/13	14	21	Mostly cloudy	2-6
	14/06/13	11	17	Clear	0-4

*Weather data was taken for 1hr after sunset, midnight and 1hr before sunrise on each date deployed. Where these data suggested sub-optimal conditions, full hourly data was taken to allow further consideration of the impact of weather on bat activity on these nights.

The static monitoring data also confirms that common and soprano pipistrelle noctule and *Myotis* sp. bats occur at the site. In addition, some calls typical of *Nyctalus* species bats and unidentified pipistrelle bats were recorded but could not be identified to species-level in some instances. Similarly calls from *Nyctalus* and/or *Eptesicus* species were also recorded and these are referred to collectively as 'Big Bats'. Thirty-five bat passes could only be identified as a 'bat' call with no species identification possible. The inability to confirm species

identification can be caused by overlap in call parameters or poor quality recordings such as from environmental noise.

- 3.32 A total of 5,842 passes were recorded of which 77.63% are attributable to pipistrelle bats as shown in Figure 1. Of these, 53.97% were from common pipistrelle with a comparatively small number of soprano bat passes recorded, though these were the next most frequently recorded species. A peak of 54.66 common pipistrelle passes per hour was recorded in June.
- 3.33 *Myotis* bats were recorded on every survey period in variable numbers. A peak of 297 passes were recorded at SM2 Location B in June accounting for 14% of bat passes for that location in June. Most *Myotis* bat passes were also recorded at Location B in May with either none or a single pass recorded elsewhere at the site. In July, *Myotis* bat passes were low at all recording locations.
- 3.34 Collectively, passes by large bat species (corresponding to passes identified as 'Big Bat', *Nyctalus* or noctule) account for 15.3% of all bat activity recorded at the site. Most passes could be attributed to noctule bats. This group of bats were recorded at all survey locations and during all monitoring periods with between 0.82 and 13.11 passes recorded per hour. Activity was recorded throughout the night though peak levels of activity were regularly detected at dawn and dusk from what are likely to be bats commuting over the site. Most activity was recorded on 22 May with 83 passes by noctule bats between 21:00 and 22:00.
- 3.35 Peak levels of bat activity were recorded at SM2 Location B though no monitoring location consistently supported more activity than any other. The mean bat passes/hour for the static monitoring positions is shown within Table 6 below for each species, and for bats overall. Full results for each survey are reproduced in Appendix F.

Table 6: Monthly summary of mean bat passes/hour for each species recorded at each location of static detector

Species	May				June				July			
	A	B	C	D	A	B	C	D	A	B	C	D
Common pipistrelle	7.76	45.21	5.36	0.38	4.39	54.66	1.04	0.86	5.89	1.91	9.27	20.84
Soprano pipistrelle	4.73	6.87	0.63	0.00	1.4	2.9	0.32	0.18	18.5	0.43	2.56	5.24
<i>Pipistrellus</i> sp.	0.82	7.12	0.25	0.25	0.63	10.63	0.54	0.05	1	0.65	0.65	0.69
<i>Myotis</i> sp.	0	1.58	0	0.06	0.41	13.44	0.32	0	0.78	0.13	0.43	0.52
Noctule	13.05	1.58	5.30	0.76	2.81	7.15	1.72	0.68	1.04	1.39	1.52	2.95
<i>Nyctalus</i> sp.	0.06	2.33	0	0.06	0.27	0.95	0.59	0.18	0.35	0.52	0.22	0.95
Big Bat	0	0	0	0	0	0	0	0	0	0	0	0.17
Bat sp.	1.01	0.32	0.13	0.06	0	0.05	0.18	1.09	0	0	0	0
Total	27.43	65.01	11.66	1.58	9.91	89.78	4.71	3.04	27.56	5.03	14.65	31.36

Nb. *Pipistrellus* sp- unidentified *Pipistrellus* sp.; *Nyctalus* sp: bats of either *N. noctula* or *N. leisleri*; Big Bat: species of unconfirmed *Nyctalus* or *Eptesicus* genera.

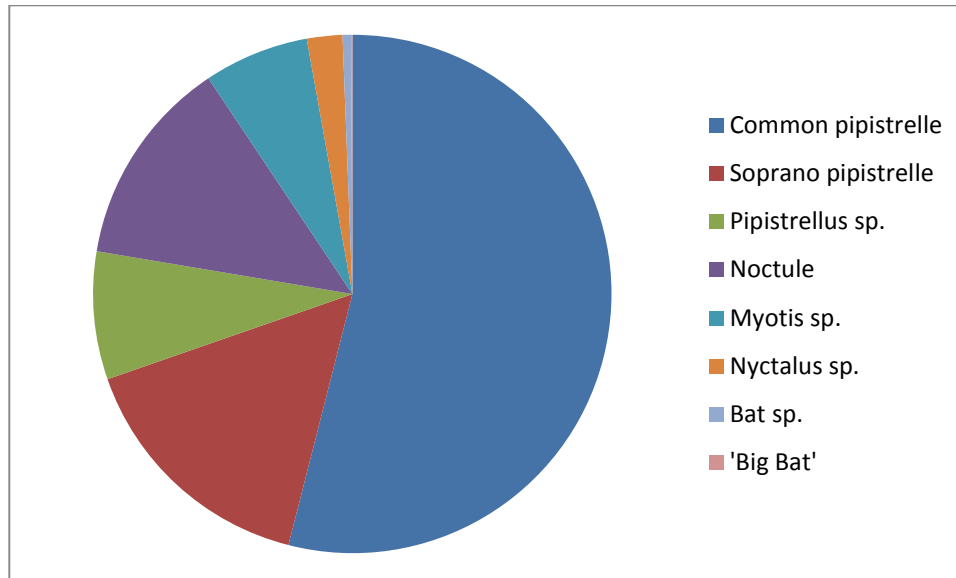


Figure 1: Graph to show the composition of total bat passes by species (%) recorded on Static detectors.

- 3.36 Activity recorded within F1 in 2012 was similarly dominated by common pipistrelle bat passes (accounting for 91% of all bat passes). Soprano pipistrelle, brown long-eared bats, noctule, serotine and *Myotis* bats were also recorded. A peak of 50.8 pipistrelle bat passes (all species combined) was recorded along H5 during the September recording session though activity was consistently very low.

Discussion and Recommendations

- 3.37 Three trees with definite bat potential were identified within the eastern half of the site (T52, T59, and T66) and several other trees across the site were identified as having Category 2 bat roosting potential. Where trees with Category 1*-2 potential are to be impacted, such as through felling or significant tree survey works, further roost assessments should be undertaken. Due to the relatively low number of trees this should include a tree climbing survey to identify any further obscured features and undertake a closer inspection of those present. Where roosting evidence is found, or where roosting cannot be ruled out, further targeted nocturnal surveys may also be required between May and September. Given the extreme difficulty of positively identifying bat roosts, a key aspect of the work would be to provide a specialist watching brief during works on these trees such that key features are checked prior to removal and/or features are carefully soft felled or lowered, where appropriate. Should a bat roost be positively identified within any tree to be impacted, it will be necessary to obtain a European Protected Species (EPS) licence from Natural England to authorise works that would otherwise be illegal.
- 3.38 The transect and static monitoring surveys identified a similar pattern of bat activity at the site as those undertaken within F1 in 2012. At least five species

were found to use the site, with activity dominated by common and soprano pipistrelle bats. Noctule bats also formed a notable part of the overall bat activity and were regularly seen foraging over the arable fields as well as commuting over the site. Limited activity was recorded by *Myotis*, serotine and brown long-eared bats suggesting the site does not form an important resource for these species, although 'quiet' bat species may be underrepresented, such as long-eared and *Myotis* bats. Key areas of activity were noted along H5 and H6 though bats were recorded in all parts of the site and overall, activity levels are considered to be low.

- 3.39 The hedgerows and trees are the key features of value for bats at this site. These should be retained wherever possible with necessary breaches directed to weaker or species poor sections. The majority of hedgerows are retained within current proposals though impacts to bat flight and foraging routes are anticipated where access routes through hedgerows are required. Replacement native planting of hedgerows and other tree, thicket and scrub vegetation should be provided to maintain a foraging resource and reconnect habitat across the site.
- 3.40 Consideration should be made to the proposed lighting scheme with regards to bats and guidance from the Bat Conservation Trust (BCT)³, particularly making sure to avoid unnecessary light spill onto the adjacent hedgerows and trees. External lighting should be kept to a minimum and upward lighting should also be avoided to avoid potential disturbance to bats.
- 3.41 The value of the site for roosting bats can be enhanced through the provision of roost boxes/units into the fabric of new buildings or on retained mature trees. Boxes should be positioned at least 2m high on the south-east to south-west elevation with a clear flight-path. Boxes in/on buildings should be positioned close to areas of mature vegetation and not directly above doors or windows.
- 3.42 The landscaping scheme should seek to incorporate native species of known wildlife-value, particularly night-scented varieties attractive to night-flying insects, and therefore bats. A range of suitable species is given within the Bat Conservation Trust guide "Encouraging Bats"⁴. New planting within areas of open space should also seek to use native species of local provenance, wherever possible.
- 3.43 New woodland, tree and grassland planting to extend habitats along the A46 corridor would strengthen this resource for bats. Addition of wetland habitats such as rough and damp grassland in attenuation features, ponds and ditches will also increase the variety of prey available to bats, provided these habitats are managed sensitively for wildlife. The area of rough grassland adjacent to the canal, in F4, will be retained alongside the development as open space. It

³ Bat Conservation Trust (2009). Bats and Lighting in the UK [online]. Available at: http://www.bats.org.uk/data/files/bats_and_lighting_in_the_uk_final_version_version_3_may_09.pdf. Accessed: 2012

⁴ Bat Conservation Trust, 2012. Encouraging Bats. A guide for bat-friendly gardening and living. BCT, London

is recommended that this field and other areas of existing and proposed habitat at the site are included in specifications covered by a management plan which gives due consideration to ensuring their long-term value to bats.

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4.0 BADGERS

Background Information

- 4.1 WBRC have provided five records of road casualty badgers for within a 1km radius of the site. Three of these occur along the A46 to the north of the site whilst another has been recorded along the A422 c.160m south-west of the site. The fourth record falls within the site boundary at the south-western end of the site and likely relates to Ridgeway.

Legislation

- 4.2 Badgers and their setts are protected under the Protection of Badgers Act 1992 and a licensing system exists to permit certain works that might otherwise be illegal. By way of example, licensable works will not only include direct impacts to badger holes but may also include certain works within close proximity to a badger hole which may constitute a disturbance offence.

Survey Methodology

- 4.3 There was considered to be potential for badgers to use the site so a detailed badger survey was undertaken within F1 on 10 September 2012 and updated across the whole site on 09 April 2013 by Katie Critchley MCIEEM and Kate Kibble GradCIEEM. This involved methodically searching the area for field signs of badger and mapping any present including:

- Feeding evidence such as snuffle holes made during foraging;
- Badger guard hairs caught on coarse vegetation, fences, etc.;
- Latrines, often positioned along territorial boundaries;
- Foraging tracks/push-throughs under fences and other obstacles; and ;
- Badger setts

- 4.4 Where setts are located the number and usage level of holes and the type of sett they comprise are recorded and categorised according to the criteria listed in Table 7 below (Harris *et al.* 1989, Cresswell *et al.* 1990, Wilson *et al.* 1997).

Table 7. Badger sett and hole definitions

Sett Type
Main Setts - These usually have a large number of holes with large spoil heaps, and the sett generally looks well used. There will be well-used paths to and from the sett and between sett entrances. Although normally the breeding sett is in continuous use, it is possible to find a main sett that has become disused due to excessive digging or some other reason; it should be recorded as a disused main sett. In the first survey, the average size of an active main sett was twelve holes (including all categories of use).
Annexe setts - They are often close to a main sett, usually less than 150 metres away, and are usually connected to the main sett by one or more obvious well-worn paths. They usually have several holes, but may not be in use all the time even if the main sett is very active. In the first survey the average size was five holes (including all categories of use).

Subsidiary setts - These often only have a few holes; four (including all categories of use) was the average number in the first survey. They are usually at least 50 metres from a main sett, and do not have an obvious path connecting with another sett. They are not continuously active.
Outlying setts - These usually have only one or two holes, often have little spoil outside the hole, have no obvious path connecting with another sett, and are only used sporadically. When not in use by badgers, they are often taken over by foxes or even rabbits. However, they can still be recognised as badger setts by the shape of the tunnel (not the actual entrance hole), which is usually at least 250mm in diameter, and is rounded or a flattened oval shape. Fox and rabbit tunnels are smaller and often taller than broad.
Hole Type
Well used holes - These are clear of any debris or vegetation, are obviously in regular use, and may or may not have been excavated recently.
Partially used holes - These are not in regular use and have debris such as leaves and twigs in the entrance, or have moss and / or other plants growing in or around the entrance. Partially used holes could be in regular use after a minimal amount of clearance.
Disused holes - These have not been in use for some time, are partially or completely blocked, and could not be used without a considerable amount of clearance. If the hole has been disused for some time, all that may be visible is a depression in the ground where the hole used to be, and the remains of the spoil heap, which may be covered in moss or plants.

Survey Results

- 4.5 The badger survey revealed a number of mammal paths running through the hedgerows around to the site, particularly to the east and south, although most were small and attributable to rabbits *Oryctolagus cuniculus*. Some are potentially large enough to be used by badgers but no evidence of this was confirmed and several fox *Vulpes vulpes* scats were noted at the site. Two mammal holes were found on the east side of H5 though this was confirmed also to be used by breeding foxes (visual observation).
- 4.6 No badger setts were confirmed within any of the hedgerows or ditches and no setts or signs of badger/mammal activity were immediately visible within the tree belt adjacent to the A46 road to the north following careful observation from within the site.
- 4.7 A badger latrine comprising one freshly used dung-pit was found beneath H7.

Discussion and Recommendations

- 4.8 The survey confirms that badgers use the site with a single badger latrine found beneath the southern hedgerow H8. This level of activity is very low and indicates that badgers may utilise the site occasionally or to make use of seasonal resources such as mature crops.
- 4.9 There is currently no legal constraint to the development from badgers. However, as badgers are present in the local area there is potential for the level of activity to change at any time or for new setts to be dug at the site prior to the commencement of works. It is therefore recommended that a further badger survey be undertaken at the site prior to the start of development works to

ensure that no new setts have been dug in the interim. If a badger sett is found then potential impacts to it as a result of the proposals will need to be considered and, if unavoidable, a suitable mitigation strategy will need to be agreed and a licence may be required from Natural England to allow the development to continue. Closure of setts under licence is constrained to the time period between July and November inclusive.

- 4.10 There will be loss of arable habitat which may form a seasonal foraging resource for badgers, however the main habitats of value at the site are considered to be the hedgerows and A46 corridor which are primarily expected to be retained. It is recommended that a buffer between these features and the development is maintained to prevent disturbance impacts to animals using natural corridors across the site.
- 4.11 There is scope to provide opportunities for badgers within areas of open space and supplementary planting. It is recommended that the planting scheme comprise native species of local provenance to include fruit-bearing species of particular benefit to badgers e.g. crab apple *Malus sylvestris*, elder *Sambucus nigra*, dog-rose *Rosa canina*, hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa*, holly *Ilex aquifolium*, rowan *Sorbus aucuparia*, wayfaring-tree *Viburnum lantana* and guelder-rose *Viburnum opulus*.
- 4.12 For animal welfare reasons, it is recommended that work at or near fox dens are avoided between March and September to avoid impacts to breeding foxes and dependent cubs as they are known to breed on the site.

5.0 WATER VOLE AND OTTER

Background Information

- 5.1 WBRC provided one record of water vole *Arvicola amphibius* from 1984 at Shottery Brook c.1.1km south of the site. The Stratford-upon-Avon Canal runs past the north-eastern boundary of the site and this feature along with riparian vegetation, damp grassland and ditches on-site were considered to support potential for water vole.
- 5.2 WBRC have also provided 17 records of otter (spraints and visual sightings) from the River Avon for between 2005 and 2011, all of which occur at least 2km from the site boundaries.
- 5.3 Current proposals retain the area of grassland and drains alongside the canal, alongside the development. However, proposed alterations to the bridge adjacent to the south-east corner of the site could impact water vole and otter if present within the area.

Legislation

- 5.4 Water voles are afforded legal protection under all parts of section 9 of the Wildlife and Countryside Act, 1981 (as amended) through their inclusion on Schedule 5. In terms of development, the most relevant parts of the legislation make it an offence to intentionally kill or injure water voles, or to intentionally or recklessly damage, destroy or obstruct access to any structure or place that they use for shelter or protection. It is also an offence to intentionally or recklessly disturb water voles whilst occupying such a structure or place.
- 5.5 Otters receive strict legal protection under the Wildlife and Countryside Act and the Habitats Regulations, and are a European Protected Species. This makes it an offence to deliberately capture, injure or kill an otter; deliberately or recklessly disturb otters, impairing their ability to survive, breed, reproduce or rear/nurture their young; damage or destroy a breeding site or resting place used by otters and; intentionally or recklessly obstruct access to any structure or place that an otter uses for shelter or protection.
- 5.6 Where development is proposed that would result in an offence under the Habitats and Species Regulations a European Protected Species (EPS) licence needs to be granted by the appropriate authority (Natural England in England) to permit an act that would otherwise be unlawful.

Survey Methodology

- 5.7 A water vole survey of the Stratford-upon-Avon Canal was undertaken by Katie Critchley and Kate Kibble on 09 April 2013. This involved a detailed search of the stretch of bank adjacent to the site and a further 50m in both directions. The banks were visually inspected and hand searched for signs of water voles including:
- Latrines
 - Feeding stations or chopped vegetation
 - Tunnel entrances above and below water level with a cropped 'garden' or 'lawn' around the tunnel entrance
 - Paths and runs at the water's edge
 - Runs in vegetation and footprints in mud
 - Sightings or sounds of entering the water
- 5.8 An additional search was made of the western bank of the canal and adjacent grassland and ditches on 18 July 2013 when vegetation cover was more substantial and water vole activity will have been more noticeable. Any evidence of water vole found was also recorded during subsequent visits to the site.
- 5.9 Notes on physical characteristics of the canal and surroundings were taken along with details of the dominant vegetation types and surrounding habitat. Field signs indicating the presence of other riparian mammals, particularly otter *Lutra lutra* and American mink *Neovison vison* were also looked for.

Survey Results

- 5.10 The Stratford-upon-Avon Canal is a navigable canal with towpath and amenity grassland on the east bank and dense sedge and bramble scrub along the west boundary on-site. The banks adjacent to the site are earth but are a mix of both natural earth banks and reinforced concrete/metal retaining walls.
- 5.11 Vegetation on the east bank is limited to short mown amenity grassland along the towpath with some aquatic marginal species. The western bank supports dense bramble scrub with some semi-mature trees. Common nettle *Urtica dioica*, meadowsweet *Filipendula ulmaria*, great willowherb *Epilobium hirsutum*, pendulous sedge *Carex pendula* and reed canary-grass *Phalaris arundinacea* form the dominant vegetation although shading from tall stands of scrub and trees meant that bankside vegetation was limited in places to bare earth or brash. Further west, dense rough grassland and tall ruderal form the dominant habitat within field F4 with two wet ditches bisecting it.

- 5.12 Beneath and adjacent to the canal road bridge both banks are reinforced with metal or concrete. There are no opportunities for water voles to burrow in these areas.
- 5.13 No evidence to suggest the presence of water voles was found at the site or adjacent areas of bank during the 2013 surveys. Two burrows c.8cm wide were found along the west bank beneath an area of trees and scrub but due to the lack of other field signs such as grazing lawns or latrines it is considered that these are most likely to have been created by brown rat *Rattus norvegicus*. No evidence of otter or other riparian mammal was found.
- 5.14 In June 2014, feeding signs and runs attributable to water vole were found within F4, a few metres from the canal, during an update visit to the site. On 25 April, 26 June and 29 July 2014 fresh otter spraint was found along the towpath beneath the Bishopton Lane Bridge.

Discussion and Recommendations

- 5.15 Although opportunities for water vole along the canal itself are considered to be limited by the lack of earth, vegetated banks and dense shading by trees and scrub, there is suitable habitat further into the site within F4. Detailed surveys of the adjacent stretch of canal and on-site grassland and drain habitats did not find any evidence of water vole activity until 2014 when some feeding remains were identified within F4. At this time, otter spraint was also found on the adjacent Bishopton Lane Bridge confirming that otter use this stretch of the canal. No evidence of otter has been found on-site.
- 5.16 Habitats within F4 are proposed to be retained as informal public open space with some element of public access. It is not considered that this use of the land will result in the killing/injury of water voles or destruction of burrows however it is recommended that a detailed mitigation strategy be developed once full landscaping proposals are known. It is recommended that the routes of any new paths within this area are designed with consideration for the presence of otters along the canal. Public access should be avoided within 10m of the banks and the potential for fencing should be considered to limit disturbance to wildlife using the bankside habitats.
- 5.17 The canal and associated grassland and drains are considered to be a valuable habitat for other riparian wildlife such as waterfowl as well as wetland flora. This area is being retained under current proposals as public open space. It is recommended that retention and creation of rough-grassland and marginal vegetation be incorporated into a formal Landscape and Ecology Management Plan for this area to ensure its long-term value for wildlife.
- 5.18 Development procedures should take necessary precautions to prevent accidental pollution of the canal. Creation of a natural buffer is also

recommended to reduce negative impacts to this feature and its wildlife following construction e.g. from disturbance or littering.

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6.0 BIRDS

Background Information

- 6.1 WBRC has provided three records of barn owl *Tyto alba* (WCA Schedule.1) within 2km of the site boundary. The nearest was seen perched within a field known as Ecosite 107/15 (Field A06 South East) in 2008 c.75m north east of the site, with the other two records occurring over 1km from the site. Barn owl and farmland birds are a Warwickshire BAP priority species.
- 6.2 Records of 60 notable bird species have also been provided by WBRC, 45 of which are historic records (pre-1980) associated with the Stratford Canal and Meadows c.350m north of the A46. The only records post 2000 within a 2km radius of the site boundary are that of hawfinch *Coccothraustes coccothraustes* and dunnock *Prunella modularis* recorded c.1.7km east and south-east of the site, respectively.
- 6.3 A number of UK Biodiversity Action Plan (BAP)/S41 bird species were incidentally recorded during the extended Phase 1 survey in April 2012 comprising house sparrow *Passer domesticus*, dunnock, sky lark *Alauda arvensis* and common starling *Sturnus vulgaris*. Other bird species recorded were blue tit *Cyanistes caeruleus*, great tit *Parus major*, chaffinch *Fringilla coelebs*, robin *Erithacus rubecula*, mistle thrush *Turdus viscivorus*, blackbird *T. merula*, woodpigeon *Columba palumbus*, jackdaw *Corvus monedula*, carrion crow *C. corone*, buzzard *Buteo buteo*, mallard *Anas platyrhynchos*, pheasant *Phasianus colchicus* and magpie *Pica pica*.
- 6.4 A snipe *Gallinago gallinago* was also flushed from rank grassland within F4 during the badger survey of April 2013.
- 6.5 A breeding bird survey comprising five visits to the site was undertaken between April and June 2012 to assess the value of the site for breeding birds. Full results of this survey are presented in the Protected Species Report (CSa/1957/02) and Appendices G and H to aid reference within this document.

Legislation

- 6.6 All wild birds, their nests and eggs are protected under subsection 1(1) of the Wildlife and Countryside Act 1981. It is an offence to kill or injure any wild bird, to take or destroy their eggs, or to take, damage or destroy their nests while in use or being built.
- 6.7 In addition, certain species of wild bird, listed within Schedule 1 of the Wildlife and Countryside Act, receive additional protection under subsection 1(5) of the Act. This makes it an offence to disturb any wild bird included in Schedule 1

while it is building a nest or is in, on or near a nest containing eggs or young. It is also an offence to disturb the dependent young of such a bird.

6.8 Consideration is also taken of Birds of Conservation Concern (BoCC). These are species which are declining or appear to be in need of concentrated conservation actions (Eaton et al, 2009⁵). Certain criteria are used to place birds on a Red-list, Amber-list or Green-list and these are outlined in Table 8 below.

Table 8. Criteria for classifying birds of conservation concern

Red listed	<ul style="list-style-type: none"> • those that are globally threatened according to The World Conservation Union (IUCN) criteria; • historical decline in breeding population and not shown substantial recent recovery • those that have shown a severe breeding decline over 25 years/longer term; • those that have shown a severe breeding range decline over 25 years/longer term; • species whose non-breeding population has declined over 25 years/longer term.
Amber listed	<ul style="list-style-type: none"> • species of European Conservation Concern; • those whose population has declined historically but made a substantial recent recovery; • those whose breeding population has declined moderately over 25 years /longer term; • those that have shown a moderate breeding range decline over 25 years/longer term; • those whose non-breeding population has declined moderately over 25 years /longer term; • rare breeders; or non-breeding rarity • species with internationally important or localised populations.
Green listed	<ul style="list-style-type: none"> • species that fulfil none of the criteria above.

Survey Methodology

Breeding Bird Survey

6.9 A Common Birds Census (CBC) for breeding birds was carried out across the site between 10 April and 13 June 2012 encompassing five visits spaced out at minimum eight day intervals. The surveys were completed by Kate Kibble, and the conduct of the fieldwork was commensurate with good ornithological practice. The purpose of the survey was to assess the composition of the breeding bird community within the site, the population size of each species present and the species distribution within the survey areas.

6.10 Survey work also focused on determining the presence/absence of any protected or notable species of National, Regional or Local conservation

⁵ Eaton MA, Brown AF, Noble DG, Musgrove AJ, Hearn R, Aebischer NJ, Gibbons DW, Evans A and Gregory RD (2009) Birds of Conservation Concern 3: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man. *British Birds* 102, pp296-341

importance, and to determine whether any populations of such species are significant at a local or wider level. Data provided on the distribution of species within the survey area indicates the importance of parts of the site to each bird species and to birds in general.

6.11 The survey methodology adopted follows the standard CBC method⁶ and comprises:

- Identification of breeding species within the habitats at the site
- Identification of all birds seen and heard with locations mapped on a large-scale plan; and
- Records of the total numbers of birds seen

Wintering Bird Survey

6.12 Three wintering bird survey visits were carried out at the site between December 2012 and February 2013 to provide an assessment of the site's value for birds during the winter, allowing for reduced territoriality and the formation of wide-ranging, mixed-species flocks that can cause significant variation in species diversity and bird numbers on a daily basis. In addition, weather factors, such as snow cover, can also result in the movement of birds to or from an area. The survey methodology also followed the CBC method described above though breeding activity was not recorded. The weather conditions experienced during the surveys are presented in Appendix I.

6.13 On each survey the surveyor walked a slow route across the whole site which ensured that both species of open and boundary habitats would be detected. Alternative versions of the route were taken on each visit so that different parts of the site would be surveyed at different parts of the morning, thus avoiding temporal bias associated with bird activity or other factors such as increasing traffic noise. Surveys commenced in early-mid morning and continued for approximately three to four hours. Birds were detected by sound or sight, using a pair of 10 x 42 binoculars. All birds detected at the site were recorded using standardised codes to map their distribution and behaviour, and to differentiate between individuals for the purposes of mapping.

Survey Limitations

6.14 Only a proportion of individuals of each species will be detected on each visit, and some particularly secretive or low-density species, can be elusive and require several visits to detect. Furthermore, the value of a site for birds can change over the winter depending on factors such as remaining food availability, presence of roosting features and weather conditions, particularly snow cover.

6.15 The detectability of birds within the boundary hedgerows is likely to have been affected by heavy traffic noise (along the A46 at all times, and along Bishopton

⁶ Bibby et al (2000). *Bird Census Techniques*. 2nd Edition. Academic press, London.

Lane later in the morning). Road works were being undertaken along Bishopton Lane on the final wintering bird survey of 15 February which may have disturbed birds from hedgerows around Spa Farm.

Survey Results

Breeding Birds

- 6.16 A total of 35 species were recorded on or adjacent to the survey area during the breeding bird surveys of 2012 with four confirmed breeding species and sixteen probable/possible breeding species. The breeding bird assemblage is classed as being of up to local value using criteria by Fuller (1980)⁷. Fourteen species of conservation importance were observed at the site including the notable farmland birds skylark, for which multiple territories could be mapped, and yellowhammer *Emberiza citrinella*. Both these species are on the Red-list of conservation concern so their presence at the site is notable.
- 6.17 With the exception of skylark, all other breeding habitat was restricted to the hedgerows and trees at the site though ground-nesting mallard and moorhen *Gallinula chloropus* were also recorded by the canal.
- 6.18 One barn owl, a species protected under Schedule 1 of the Wildlife and Countryside Act, 1981 (as amended) was recorded foraging over the wheat crop within F1 during a bat survey in July 2012. There are no suitable nesting sites for this species at the site though it may make use of seasonally available foraging opportunities within its range.
- 6.19 Full results of the breeding bird survey are provided in Appendices G and H, reported on in full within the Protected Species Report CSa/1957/02.

Wintering Birds

- 6.20 The wintering bird surveys recorded 38 species at or near the site, 31 of which were actively using the site or are considered likely to use the habitats regularly. Many of the species were recorded occupying similar habitat features as within the breeding season and are likely to be resident at the site all year round. This wintering bird assemblage is classed as being of Local importance (using criteria by Fuller, 1980) although this number of species is considered typical for such a large site and no rare species, or notably large populations were recorded. A similar number of species were recorded as for the breeding bird surveys, with summer migrant birds replaced by wintering/passage migrants. Full results are provided in Appendix I.
- 6.21 Seven species on the Red-list of conservation concern (lapwing *Vanellus vanellus*, skylark, song thrush *Turdus philomelos*, redwing *Turdus iliacus*, fieldfare *T. pilaris*, starling, house sparrow and yellowhammer) were recorded.

⁷ Fuller, R.J., (1980), A method for assessing the ornithological interest of sites for conservation. *Biological Conservation* 17: 229-239

Of these, skylark, house sparrow, lapwing and yellowhammer are notable farmland birds though the house sparrows were primarily associated with the hedgerows and offsite houses and gardens. A large number (c.60) of lapwing were noted flying over the site on one occasion and although there is potential for wintering lapwing at the site none were identified using the site during the three visits. There is considered to be negligible potential for this species to breed at the site. Redwing and fieldfare are widespread winter visitors which were using the open field habitats and hedgerows, with redwing seen in reasonable numbers. These species are both protected under Schedule 1 of the Wildlife and Countryside 1981 (as amended) but this is only afforded to nesting birds and so is not relevant to this site. Two song thrushes were recorded singing at the site and this species was recorded as a probable breeder during the breeding bird surveys of 2012.

- 6.22 Six species on the Amber-list of conservation concern were recorded (mallard, black-headed gull *Chroicocephalus ridibundus*, stock dove *Columbus oenas*, meadow pipit *Anthus pratensis*, dunnock and mistle thrush) of which dunnock and mistle thrush are considered to be regular users of the site. One meadow pipit was observed and this is likely to be a passage/migrant individual. A small number of stock doves were recorded feeding on the arable land and new shoots or spilt grain/seeds are likely to be a regular food source for this and other bird species.
- 6.23 The hedgerows and gardens of Spa Farm and neighbouring properties were found to support most wintering bird activity. The open fields were noted to be used by a wider range of species, and in greater numbers than at other times of year with large numbers of woodpigeon, plus stock dove, mistle thrush, redwing, yellowhammer and pied wagtail feeding on the ground. This of course may be related to the increased detectability of birds when there is young or absent crop or the reduced territoriality of birds during the winter, but the bare arable land also forms a temporary foraging resource for many species. The canal and associated grassland areas were not noted as being of unusually high value to birds though some waterfowl were present at the site boundaries.

Discussion and Recommendations

- 6.24 The site was found to support breeding and wintering bird assemblages of local value. Several species of conservation concern were recorded including notable farmland bird species with skylark and yellowhammer present all year round. The site is considered to support a typical range of species given its large size and the nature of habitats present. Much of the ornithological interest (in terms of species diversity and abundance) was limited to hedgerows and mature trees, though the arable land was used by several species over the winter period. The notable species starling and house sparrow were mostly restricted to the offsite houses and gardens.

- 6.25 Fourteen territories of skylark were recorded over the site in 2012, with the highest concentration of birds noted within F1 (eight territories). Singing males were occasionally seen crossing the A46 between the site and adjacent areas of cereal crop. Skylarks were also present at the site over the winter. The crop had changed from wheat to oil seed rape between 2012 and 2013 and so the value of the site for nesting is likely to have decreased. It is considered that the arable habitat at the site forms part of a wider-scale resource for local farmland birds which can utilise suitable areas of habitat when they become available each season.
- 6.26 The development proposals require complete loss of agricultural land at the site which will have a negative impact on ground-nesting and seed-eating farmland birds, and cannot be readily mitigated against.
- 6.27 The hedgerow and other mature habitats are predominantly being retained. Replacement native planting will restore current nesting opportunities for many local bird species, once established. The rough grassland, scrub and ditch habitats within F4 are of value to waterfowl and potentially waders such as snipe. Management prescriptions to benefit the habitat for birds should be incorporated into a Landscape and Ecology Management Plan for this area.
- 6.28 Additional nesting opportunities for farmland/urban birds can be provided within the fabric of new builds or on existing mature trees. Species-specific bird boxes should be included to benefit declining species recorded at the site: house sparrow, starling, swift and house martin. These should be positioned at least 2m high on walls/trees avoiding a south-facing aspect. Swift boxes should be sited at least 3m high on buildings, with a clear flight path, and ideally in groups of several boxes.
- 6.29 It is recommended that native species of local provenance be used within the landscaping scheme wherever possible to provide foraging, nesting and sheltering opportunities for birds. A list of suitable species is given in the Natural England leaflet 'Plants for wildlife-friendly gardens'⁸.
- 6.30 Any clearance of hedgerow/scrub or trees should be avoided between March and August (inclusive) when nesting birds are most likely to be present. In addition, to avoid any potential impacts to ground nesting birds at the construction ground works stage, it is recommended that any existing crop be harvested in late summer/autumn any re-growth cover be kept to a minimum until work commences so as not to encourage ground-nesting birds or other wildlife to colonise the areas to be impacted. If this is not possible than a pre-commencement nesting check under an ecological watching brief would be necessary so as to avoid an offence.

⁸ Plants for wildlife-friendly gardens available online at <http://naturalengland.communis.com/naturalenglandshop/docs/NE29.pdf>

7.0 REPTILES

Background Information

- 7.1 No records of reptiles have been provided by WBRC for the search area. The area of the site to the north, close to the canal may offer some suitable habitats for reptiles with rough grassland margins, tall ruderal and scrub, as well as some of the arable field margins associated with well established hedges and scrub.

Legislation

- 7.2 All British reptile species are listed within Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and are afforded protection against intentional killing and injury under part of sub-section 9(1) of the Act. In addition all British reptile species are species of principal importance for conservation under Section 41 of the Natural Environment and Rural Communities Act 2006.

Survey Methodology

- 7.3 A reptile survey was set-up on 09 April 2013 to assess the current presence/absence of reptile species at the site. Reptile refugia, comprised of a combination of 81 squares of roofing felt (c.0.5 x 0.5m or greater) and five corrugated 'onduline' roofing sheets (c.1m x 0.5m) were set out in areas of suitable habitat at the site. Refugia were laid out in rows along the length of F4 with extra refugia positioned around features of interest such as islands of scrub or manure piles. Additional refugia were placed within field margins along the southern boundary of F3 (including the adjoining margin with Spa Farm) and an area of uncultivated grassland in the north-east corner of F3.
- 7.4 Seven survey visits were undertaken to check for the presence/ absence of reptiles between 01 May and 12 September 2013.
- 7.5 The refugia warm up quickly in the sun and provide sheltered places where reptiles may obtain warmth. Checks are carried out when weather conditions are suitable. Surveying is usually most effective between about 8.30am and 11am, and between 4.00pm and 6.30pm during the peak of the season, however this is variable and is related to local weather conditions. Weather conditions are recorded alongside the survey results.
- 7.6 On each survey visit, refugia were checked for reptiles basking beneath or on-top of the mats, in combination with visual searches of open areas that could be used for basking by species such as grass snake and common lizard.

Survey Limitations

Vegetation within the southern field margin of F3 was sprayed off partway through the survey and so the suitability of this area to support reptiles was reduced, although all refugia were included in subsequent checks.

Survey Results

- 7.7 A single immature grass snake was observed on three occasions within F4; twice beneath 'onduline' roofing felt on the bank of the canal, and once within the centre of F4. It is considered likely that this was the same individual. No slow-worms or any other reptile species were observed at the site. Full results, including survey conditions, are provided in Appendix J.

Discussion and Recommendations

- 7.8 As outlined above, a single immature grass snake was found within F4 on three occasions, utilizing the canal-side and central rough grassland habitat. No reptiles were found within the surrounding field.
- 7.9 Habitat at the site outside of F4 is considered to be either suboptimal or unsuitable for reptiles. The field margins provide some potential for dispersal though it is apparent that they are routinely impacted by farming practices at the site. The site supports a small population of grass-snake which are a highly mobile species with large home ranges. It is likely that these animals use F4 as part of a home range which includes connecting habitats along the canal. There is considered to be negligible constraint across the rest of the site with regards to reptiles.
- 7.10 The existing reptile habitat within F4 is due to be retained alongside the development and so it is anticipated that the on-site reptile population can be maintained within this area. Reptiles will be able to continue using this area and habitats connected to the site. The provision of ponds and associated wetland habitat will benefit grass snake in the local area and these features should ideally be linked by corridors of suitable natural habitat such as rough grassland margins, woodland and scrub.
- 7.11 In the event that parts of F4 and its immediate boundaries is likely to be impacted, it is recommended that a precautionary approach be applied to clearance of vegetation. Clearance should be undertaken gradually, to no lower than 100mm, using hand-held trimmers under the supervision of a suitably experienced ecologist. Clearance should begin at the western end of the site, moving east, to displace individuals into retained habitat and during conditions when reptiles are active and able to move away from harm (warm weather between April and October).
- 7.12 Management of the arable land and margins should continue up until the commencement of development works so that reptiles are not encouraged to disperse into habitats to be impacted. It is also recommended that management

of F4 continue as at present to ensure its suitability for reptiles does not decrease with time.

- 7.13 Production of Landscape and Ecology Management Plan would be beneficial to ensure the appropriate long-term management of this area for wildlife. The management required and potential for reptile mitigation in this area will need be reviewed at a later stage in the development design process. Enhancement measures should also be incorporated for reptiles, including provision of log piles and hibernacula within areas of rough grassland and scrub.

DRAFT

8.0 SUMMARY AND CONCLUSIONS

- 8.1 In order to ascertain the presence or absence of protected species at the site and assess the potential impact of proposed residential development detailed surveys for bats, badgers, water vole, birds and reptiles have been undertaken in 2012 and 2013.

Hedgerows

- 8.2 Seven hedgerows were assessed to qualify as Important under the Hedgerow Regulations 1997, with five others assessed to be borderline. H7 and H8 were noted to be particularly species-rich and all hedgerows at the site contribute to the ecological value of the site as wildlife habitats and green corridors. Recommendations to retain, protect and enhance the hedgerows at the site have been made.

Bats

- 8.3 Three trees with definite bat potential (Category 1*-1) have been identified at the eastern end of the site, as well as several Category 2 trees where there is some potential to support bat roosting and a precautionary approach is advised. Further surveys may be required if any of these trees are to be impacted by the development to confirm the presence or likely absence of a bat roost.
- 8.4 Low activity by a range of common and widespread bat species was observed at the site following a suite of dusk activity surveys and static monitoring of hedgerows within F1 in 2012 and the whole site during 2013. Activity was mostly limited to the hedgerows, focused around H5, H6 and the A46 corridor during the transect surveys, and dominated by pipistrelle bats.
- 8.5 Potential impacts from the dissection of hedgerows have been identified. Recommendations have been made to limit impacts to bat flight or foraging lines through the enhancement of hedgerow connectivity and restriction of external light spill. In addition, it has been recommended that bat boxes/tubes be installed within the new development in suitable locations to provide new bat roosting opportunities, and that suitable plant species are incorporated into the landscaping scheme.

Badgers

- 8.6 No badger setts were confirmed at the site and all evidence of badger activity was limited to a single latrine found beneath H7. It has been recommended that a further survey be undertaken prior to the commencement of works to ensure that no newly dug setts are to be impacted. The current proposals offer opportunities for badgers and recommendations have been made for the use of native species within the planting schedule.

Water Vole and Otter

- 8.7 Although in 2013, no evidence of water vole or otter was found at the site or along adjacent stretches of the Stratford-upon-Avon Canal, in June 2014, feeding signs and runs attributable to water vole were found within F4, a few metres from the canal, during an update visit to the site. On 25 April, 26 June and 29 July 2014 fresh otter spraint was found along the towpath beneath the Bishopton Lane Bridge. Hence, recommendations have been made to protect the canal and associated habitats and wildlife from damage or disturbance which may arise as a result of the development.

Birds

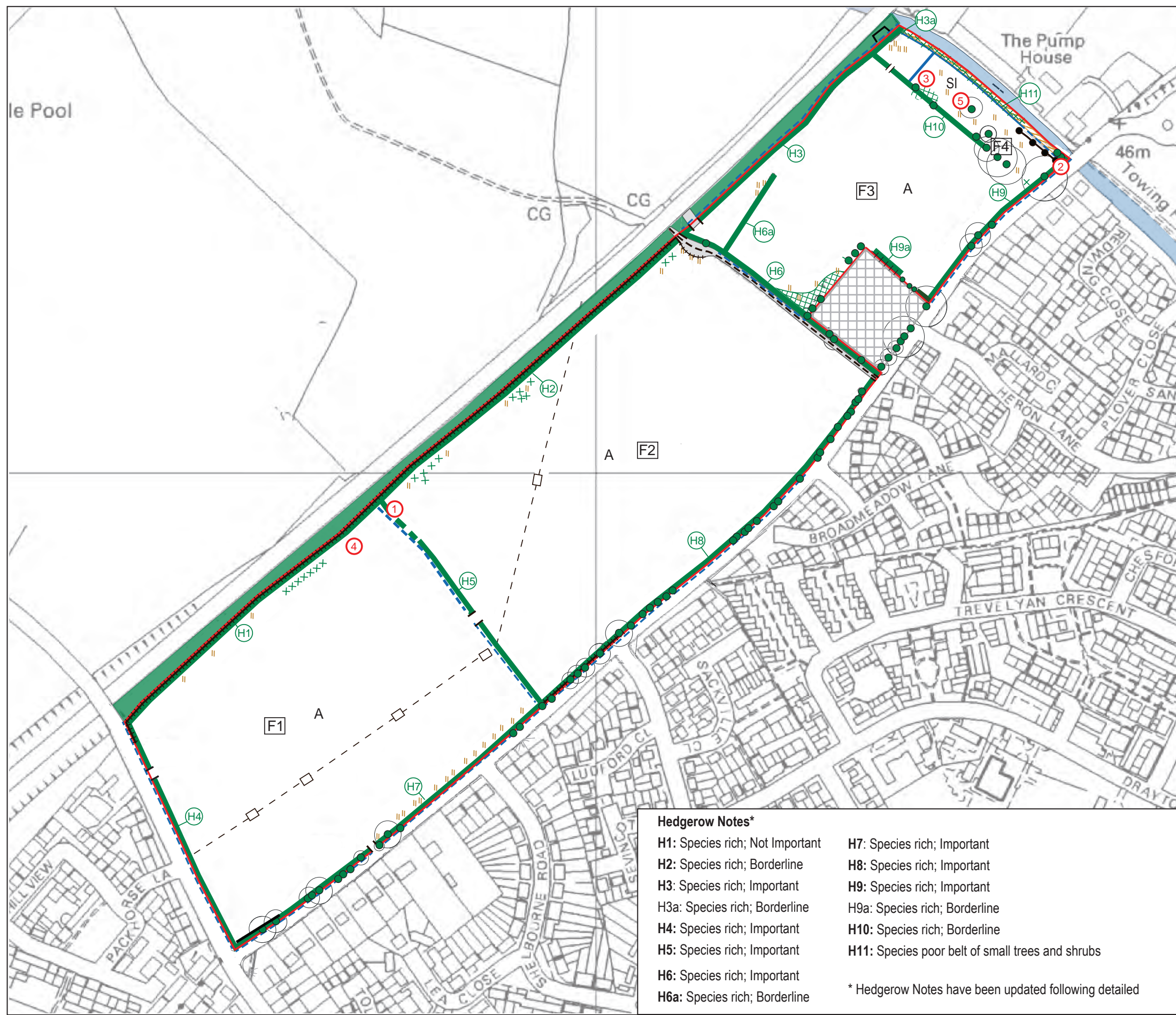
- 8.8 A series of five breeding bird surveys and three wintering bird surveys were carried across the site between 2012 and 2013. The assemblages have been classed as being of Local value. The site was found to be used by a range of species including notable farmland bird species. There will be a net loss of habitat for these species. The majority of nesting opportunities within hedgerows and trees are to be retained and further suggestions for enhancements have been made, such as the installation of bird boxes relevant to species currently present in the local area.
- 8.9 To avoid an offence under the Wildlife and Countryside Act 1981 (as amended) all clearance of dense vegetation or trees should be undertaken outside of the bird nesting season between September and February (inclusive).

Reptiles

- 8.10 An individual grass snake was repeatedly found within the canal-side, rough grassland habitats within F4 which is due to be retained. No reptiles were found in the adjacent field margins and there is considered to be negligible constraint to development of the rest of the site from reptiles; where habitat is likely to be impacted a precautionary approach to vegetation clearance has been suggested.
- 8.11 It has been recommended that a Landscape and Ecology Management Plan is drawn up to ensure that the habitats within F4 are managed appropriately in the long-term for the benefit of wildlife, and to avoid impacts to protected species.

Appendix A

Habitats Plan
CSa/1957/100C



Key

- Site Boundary
- SI Semi-improved Grassland
- A Arable Land
- Fn Field Number
- Hedgerow (Refer to hedgerow notes below for detail)
- Coniferous Hedgerow
- Hn Hedgerow Number
- Offsite Planted Woodland Belt
- Dense/ Continuous Scrub
- Scattered Scrub
- Continuous Tall Ruderal
- Scattered Tall Ruderal
- Individual Tree
- Dry Ditch
- Wet Ditch
- Canal
- Earth Bank
- Fence
- Pylon
- Public Right of Way
- Area Not Included in Surveyed Area
- Culvert
- Concrete Track

Hedgerow Notes*

H1: Species rich; Not Important	H7: Species rich; Important
H2: Species rich; Borderline	H8: Species rich; Important
H3: Species rich; Important	H9: Species rich; Important
H3a: Species rich; Borderline	H9a: Species rich; Borderline
H4: Species rich; Important	H10: Species rich; Borderline
H5: Species rich; Important	H11: Species poor belt of small trees and shrubs
H6: Species rich; Important	
H6a: Species rich; Borderline	

* Hedgerow Notes have been updated following detailed

Target Notes

- ① Debris pile
- ② Scrub/brush pile
- ③ Ridge and furrow
- ④ Mammal push through
- ⑤ Manure pile with tall ruderal

0 50 100 150 200 250metres

Appendix B

Hedgerow Assessment Sheets

General Details:

Project Number: 1957

Date: 09/04/2013

Surveyor: Katie Critchley

Site Address: Bishopton Lane, Stratford-upon-Avon

Hedge Number: H1

Important: **Not Important**

Field Based Study:

Walk the hedge on one or (where access is available) both sides and for each hedge record the following information:

Section A:

- | | |
|---|-------------------------------|
| 1. Hedge Length | c.450m |
| 2. Number of standard trees (20cm diam. at 1.3m for single stemmed, 15cm diam. for multi stemmed) | 0, all trees in woodland belt |
| 3. Is there a bank or wall which supports the hedgerow along at least one half of its length? | No |
| 4. Are there gaps in aggregate $\leq 10\%$ of the length of the hedgerow? | Yes |
| 5. Is there at least one standard tree per 50m of hedge? | No |
| 6. Is there a ditch along at least one half of the length of the hedgerow? | No |
| 7. Is a parallel hedge present within 15m? | No |
| 8. Are there three or more woodland species? (see Section C below) | No |
| 9. Are there connections scoring at least 4 points in total? | Yes |

Connections to be scored as follows:

- Connections with another hedgerow score 1 point = 3
- Connections with a pond or woodland in which the majority of trees is broad-leaved scores 2 point = 2
- A hedgerow is considered 'connected' not only if it meets it but also if it has a point within 10 metres of it and would meet it if the line of the hedgerow continued.

Total number of additional features (3-9 above) = 2

- | | |
|--|----|
| 10. Is the hedge either adjacent to a bridleway or footway, a road used as a public footpath or a byway open to traffic? | No |
|--|----|

Section B:

For all woody species, undertake woody species counts as follows:

- For Hedges up to 30m long, count total number of woody species and tick off the species in column one.
- For hedges over 30m but not exceeding 100m long, count the number of woody species in the central 30m stretch of each half of the hedge and tick species off in column 1.
- For hedges over 100m but not exceeding 200m long, do two woody species counts: one in the central 30m stretch of each half of the hedge, tick the species off in columns 1 and 2, and calculate the mean count (i.e. divide the total count by two).
- For hedges exceeding 200m in length, do 3 woody species counts: one in the central 30m stretch of each third of the hedge, tick the species off in columns 1,2 and 3 and calculate the mean count (i.e. divide the total count by three).
- In addition, ring all woody species recorded in the hedge for a total species list.

CSa Environmental Planning – Hedgerow survey sheet (Hedgerows Regulations 1997)

	1	2	3		1	2	3		1	2	3		1	2	3		1	2	3		1	2	3								
<i>Acer camp</i> Field maple				<i>Cory Avell</i> Hazel	Y	Y		<i>Euon euro</i> Spindle tree				<i>Juni comm</i> Juniper				<i>Prun aviu</i> Wild Cherry				<i>Rham cath</i> Common buckthorn				<i>Sali spp</i>				<i>Tili plat</i> Large leaved lime			
<i>Alnu glut</i> Alder				<i>Coto Inte</i>				<i>Fagu sylv</i> Beech				<i>Ligu vulg</i> Privet				<i>Prun padu</i> Bird Cherry				<i>Ribe alp</i> Alpine currant				<i>Samb nig</i> Elderberry				<i>Ulex euro</i> Gorse			
<i>Betu pend</i> Silver Birch				<i>Crat Laev</i> Midland Hawthorn				<i>Fran alnu</i> Alder buckthorn				<i>Malu sylv</i> Crab apple				<i>Prun spin</i> Sloe	Y	Y	Y	<i>Ribe spic</i> Nordic currant				<i>Sorb aucu</i> Mountain ash				<i>Ulex gall</i>			
<i>Betu pube</i> White birch				<i>Crat Mono</i> Hawthorn	Y	Y	Y	<i>Frax exce</i> Ash	Y	Y	Y	<i>Popu alba</i> White Poplar				<i>Pyrucord</i> Plymouth Pear				<i>Ribe uv-cr</i> Gooseberry				<i>Sorb torm</i> Wild service tree				<i>Ulex mino</i>			
<i>Buxe semp</i>				<i>Cyti Scop</i> Broom				<i>Hipp rham</i> Sea buckthorn				<i>Pxcan</i> Canadian Poplar				<i>Pyrupyra</i>				<i>Rosa spp</i>	Y			<i>Sorb spp</i>				<i>Ulmu spp</i> Elm			
<i>Carp betu</i> Horn-beam				<i>Daph Laur</i> Spurge Laurel				<i>Ilex aqu</i> Holly				<i>Pnigbet</i>				<i>Quer petr</i> Sessile Oak	Y	Y	Y	<i>Rusc acul</i> Butcher's broom				<i>Taxu bacc</i> Yew				<i>Vibu lant</i>			
<i>Corn sang</i> Dog-wood				<i>Daph mezze</i> Mezereon				<i>Jugl regi</i> Walnut				<i>Popu trem</i>				<i>Quer robu</i> Pedunculate Oak				<i>Sali vimi</i> Osier				<i>Tili cord</i> Small leaved lime				<i>Vibu opul</i> Guelder Rose			

Woody species counts: Count 1 = 5 Count 2 = 5 Count 3 = 5 Mean count = 5

Section C

All woodland species within 1m of the outermost edges of the hedgerow (see list below):

<i>Adox mosc</i> Moschatel	<i>Brom ramo</i> Hairy broom	<i>Dryo f-mas</i> Male ern	<i>Geum urba</i> Wood avens	<i>Meli unif</i> Wood Melick	<i>Poly vulg</i> Milkwort	<i>Viol odor</i> Sweet violet
<i>Ajug rept</i> Bugle	<i>Camp trac</i> Nettle-leaved bell-flower	<i>Epip hell</i> Broad-leaved helleborine	<i>Hyac non-s</i> Bluebell	<i>Merc pere</i> Dog's mercury	<i>Pote errec</i> Tormentil	<i>Viol reic</i> Early dog violet
<i>Alli ursi</i> Ramsons	<i>Camp lati</i> Great bell-flower	<i>Equi sylv</i> Wood horsetail	<i>Lami gale</i> Yellow archangel	<i>Mili effu</i> Wood millet	<i>Pote ster</i> Barren strawberry	<i>Viol rivi</i> Common dog violet
<i>Anem nemo</i> Wood anemone	<i>Care sylv</i> Wood sedge	<i>Euph amyg</i> Wood spurge	<i>Lath squa</i> Toothwort	<i>Orch masc</i> Early purple orchid	<i>Prim elat</i> Oxlip	
Arum macu Lords-and-ladies	<i>Circ lute</i> Enchanter's nightshade	<i>Fest giga</i> Giant fescue	<i>Luzu pilo</i> Hairy woodrush	<i>Oxal acet</i> Wood sorrel	<i>Prim vulg</i> Primrose	
<i>Aspl scol</i> Hart's tongue	<i>Cono maju</i> Pig nut	<i>Frag vesc</i> Wild strawberry	<i>Luzu sylv</i> Great woodrush	<i>Pari quad</i> Herb Paris	<i>Ranu auri</i> Goldilocks buttercups	
<i>Athy fil-fem</i> Lady fern	<i>Dryo affi</i> Scaly male-fern	<i>Gali odor</i> Woodruff	<i>Lysi nemo</i> Yellow pimpernel	<i>Poa nemo</i> Wood meadow-grass	<i>Sani euro</i> Wood sanicle	
<i>Blec spic</i> Hard fern	<i>Dryo cart</i> Narrow buckler fern	<i>Gali saxa</i> Heath bedstraw	<i>Mela prat</i> Common cow-wheat	<i>Poly acul</i> Hardshield fern	<i>Tuec scor</i> Wood sage	
<i>Brac sylv</i> Wood false-broom	<i>Dryo dila</i> Broad buckler fern	<i>Gera robe</i> Herb Robert	<i>Mela sylv</i> Small cow-wheat	<i>Poly seti</i> Soft shield fern	<i>Vero mont</i> Wood speedwell	

Total Number of woodland species: 1

Desk Based Study:

Is the hedge known to support any of the following categories of species?

- Those listed in Part 1 of Schedule 1 (birds protected by special penalties) of the Wildlife and Countryside Act 1981
- Those listed in Schedule 5 (animals which are protected) of the Wildlife and Countryside Act 1981
- Those listed in schedule 8 (plants which are protected) of the Wildlife and Countryside Act 1981
- Categorised as a declining breeder (category 3) in ‘Red Data Birds in Britain’
- Categorised as ‘endangered’, ‘extinct’, ‘rare’ or ‘vulnerable’ in one of the Red data books (see regulations for details)

If yes state which:

Evaluation:

		Adjacent to bridleway, road used as a public path or a byway open to all traffic ?															
		No							Yes								
≥7																	
6																	
5			X														
4																	
3																	
2																	
1																	
		0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7
		Number of additional features							Number of additional features								

Table for identifying ‘important’ hedges not qualifying on the basis of the species listed in the ‘desk based study’ section above. Hedges falling within dark shaded and crossed boxes are important. Those falling within other shaded boxes would qualify as important if the number of additional features or woody species count were to increase by one. They are therefore considered to be borderline (in such cases there is a reasonable likelihood that a different surveyor or survey at a different season would result in the hedge being judged important).

The Y axis = the number of woody species. The X axis = the number of additional features.

Map / Notes:

The hedge does not qualify as ‘important’ under the Hedgerows Regulation 1997 based on the ‘desk study’ criteria or under the ecological criteria set out within the Hedgerows Regulations 1997.

General Details:

Project Number: 1957

Date: 09/04/2013

Surveyor: Katie Critchley

Site Address: Bishopton Lane, Stratford-upon-Avon

Hedge Number: H2

Important: **Borderline**

Field Based Study:

Walk the hedge on one or (where access is available) both sides and for each hedge record the following information:

Section A:

- | | |
|---|-------------------------------|
| 1. Hedge Length | c.500m |
| 2. Number of standard trees (20cm diam. at 1.3m for single stemmed, 15cm diam. for multi stemmed) | 0, all trees in woodland belt |
| 3. Is there a bank or wall which supports the hedgerow along at least one half of its length? | No |
| 4. Are there gaps in aggregate $\leq 10\%$ of the length of the hedgerow? | Yes |
| 5. Is there at least one standard tree per 50m of hedge? | No |
| 6. Is there a ditch along at least one half of the length of the hedgerow? | No |
| 7. Is a parallel hedge present within 15m? | No |
| 8. Are there three or more woodland species? (see Section C below) | No |
| 9. Are there connections scoring at least 4 points in total? | Yes |

Connections to be scored as follows:

- Connections with another hedgerow score 1 point = 4
- Connections with a pond or woodland in which the majority of trees is broad-leaved scores 2 point = 2
- A hedgerow is considered 'connected' not only if it meets it but also if it has a point within 10 metres of it and would meet it if the line of the hedgerow continued.

Total number of additional features (3-9 above) = 2

- | | |
|--|----|
| 10. Is the hedge either adjacent to a bridleway or footway, a road used as a public footpath or a byway open to traffic? | No |
|--|----|

Section B:

For all woody species, undertake woody species counts as follows:

- For Hedges up to 30m long, count total number of woody species and tick off the species in column one.
- For hedges over 30m but not exceeding 100m long, count the number of woody species in the central 30m stretch of each half of the hedge and tick species off in column 1.
- For hedges over 100m but not exceeding 200m long, do two woody species counts: one in the central 30m stretch of each half of the hedge, tick the species off in columns 1 and 2, and calculate the mean count (i.e. divide the total count by two).
- For hedges exceeding 200m in length, do 3 woody species counts: one in the central 30m stretch of each third of the hedge, tick the species off in columns 1,2 and 3 and calculate the mean count (i.e. divide the total count by three).
- In addition, ring all woody species recorded in the hedge for a total species list.

CSa Environmental Planning – Hedgerow survey sheet (Hedgerows Regulations 1997)

	1	2	3		1	2	3		1	2	3		1	2	3		1	2	3		1	2	3								
<i>Acer camp</i> Field maple				<i>Cory Avell</i> Hazel	Y	Y	Y	<i>Euon euro</i> Spindle tree				<i>Juni comm</i> Juniper				<i>Prun aviu</i> Wild Cherry				<i>Rham cath</i> Common buckthorn				<i>Sali spp</i>			Y	<i>Tili plat</i> Large leaved lime			
<i>Alnu glut</i> Alder				<i>Coto Inte</i>				<i>Fagu sylv</i> Beech				<i>Ligu vulg</i> Privet				<i>Prun padu</i> Bird Cherry				<i>Ribe alp</i> Alpine currant				<i>Samb nig</i> Elderberry				<i>Ulex euro</i> Gorse			
<i>Betu pend</i> Silver Birch				<i>Crat Laev</i> Midland Hawthorn				<i>Fran alnu</i> Alder buckthorn				<i>Malu sylv</i> Crab apple				<i>Prun spin</i> Sloe	Y	Y	Y	<i>Ribe spic</i> Nordic currant				<i>Sorb aucu</i> Mountain ash				<i>Ulex gall</i>			
<i>Betu pube</i> White birch				<i>Crat Mono</i> Hawthorn	Y	Y	Y	<i>Frax exce</i> Ash	Y	Y	Y	<i>Popu alba</i> White Poplar				<i>Pyru cord</i> Plymouth Pear				<i>Ribe uv-cr</i> Gooseberry				<i>Sorb torm</i> Wild service tree				<i>Ulex mino</i>			
<i>Buxe semp</i>				<i>Cyti Scop</i> Broom				<i>Hipp rham</i> Sea buckthorn				<i>P x can</i> Canadian Poplar				<i>Pyru pyra</i>				<i>Rosa spp</i>	Y	Y	Y	<i>Sorb spp</i>				<i>Ulm spp</i> Elm			
<i>Carp betu</i> Horn-beam				<i>Daph Laur</i> Spurge Laurel				<i>Ilex aqu</i> Holly				<i>P nig bet</i>				<i>Quer petr</i> Sessile Oak		Y	Y	<i>Rusc acul</i> Butcher's broom				<i>Taxu bacc</i> Yew				<i>Vibu lant</i>			
<i>Corn sang</i> Dog-wood				<i>Daph mezze</i> Mezereon				<i>Jugl regi</i> Walnut				<i>Popu trem</i>				<i>Quer robu</i> Pedunculate Oak				<i>Sali vimi</i> Osier				<i>Tili cord</i> Small leaved lime				<i>Vibu opul</i> Guelder Rose			

Woody species counts: Count 1 = 5 Count 2 = 6 Count 3 = 7 Mean count = 6

Section C

All woodland species within 1m of the outermost edges of the hedgerow (see list below):

<i>Adox mosc</i> Moschatel	<i>Brom ramo</i> Hairy broom	<i>Dryo f-mas</i> Male ern	<i>Geum urba</i> Wood avens	<i>Meli unif</i> Wood Melick	<i>Poly vulg</i> Milkwort	<i>Viol odor</i> Sweet violet
<i>Ajug rept</i> Bugle	<i>Camp trac</i> Nettle-leaved bell-flower	<i>Epip hell</i> Broad-leaved helleborine	<i>Hyac non-s</i> Bluebell	<i>Merc pere</i> Dog's mercury	<i>Pote erec</i> Tormentil	<i>Viol reic</i> Early dog violet
<i>Alli ursi</i> Ramsons	<i>Camp lati</i> Great bell-flower	<i>Equi sylv</i> Wood horsetail	<i>Lami gale</i> Yellow archangel	<i>Mili effu</i> Wood millet	<i>Pote ster</i>	<i>Viol rivi</i> Common dog violet
<i>Anem nemo</i> Wood anemone	<i>Care sylv</i> Wood sedge	<i>Euph amyg</i> Wood spurge	<i>Lath squa</i> Toothwort	<i>Orch masc</i> Early purple orchid	<i>Prim elat</i> Oxlip	
<i>Arum macu</i> Lords-and-ladies	<i>Circ lute</i> Enchanter's nightshade	<i>Fest giga</i> Giant fescue	<i>Luzu pilo</i> Hairy woodrush	<i>Oxal acet</i> Wood sorrel	<i>Prim vulg</i> Primrose	
<i>Aspl scol</i> Hart's tongue	<i>Cono maju</i> Pig nut	<i>Frag vesc</i> Wild strawberry	<i>Luzu sylv</i> Great woodrush	<i>Pari quad</i> Herb Paris	<i>Ranu auri</i> Goldilocks buttercups	
<i>Athy fil-fem</i> Lady fern	<i>Dryo affi</i> Scaly male-fern	<i>Gali odor</i> Woodruff	<i>Lysi nemo</i> Yellow pimpernel	<i>Poa nemo</i> Wood meadow-grass	<i>Sani euro</i> Wood sanicle	
<i>Blec spic</i> Hard fern	<i>Dryo cart</i> Narrow buckler fern	<i>Gali saxa</i> Heath bedstraw	<i>Mela prat</i> Common cow-wheat	<i>Poly acul</i> Hardshield fern	<i>Tuec scor</i> Wood sage	
<i>Brac sylv</i> Wood false-broom	<i>Dryo dila</i> Broad buckler fern	<i>Gera robe</i> Herb robert	<i>Mela sylv</i> Small cow-wheat	<i>Poly seti</i> Soft shield fern	<i>Vero mont</i> Woodspeedwell	

Total Number of woodland species: 1

Desk Based Study:

Is the hedge known to support any of the following categories of species?

- Those listed in Part 1 of Schedule 1 (birds protected by special penalties) of the Wildlife and Countryside Act 1981
- Those listed in Schedule 5 (animals which are protected) of the Wildlife and Countryside Act 1981
- Those listed in schedule 8 (plants which are protected) of the Wildlife and Countryside Act 1981
- Categorised as a declining breeder (category 3) in 'Red Data Birds in Britain'
- Categorised as 'endangered', 'extinct', 'rare' or 'vulnerable' in one of the Red data books (see regulations for details)

If yes state which: No

Evaluation:

		Adjacent to bridleway, road used as a public path or a byway open to all traffic ?															
		No							Yes								
≥7																	
6				X													
5																	
4																	
3																	
2																	
1																	
		0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7
		Number of additional features							Number of additional features								

Table for identifying 'important' hedges not qualifying on the basis of the species listed in the 'desk based study' section above. Hedges falling within dark shaded and crossed boxes are important. Those falling within other shaded boxes would qualify as important if the number of additional features or woody species count were to increase by one. They are therefore considered to be borderline (in such cases there is a reasonable likelihood that a different surveyor or survey at a different season would result in the hedge being judged important).

The Y axis = the number of woody species. The X axis = the number of additional features.

Map / Notes:

The hedge does not qualify as 'important' under the Hedgerows Regulation 1997 based on the 'desk study' criteria.

However, as the hedge has 2 additional features and a mean count of 6 woody species it qualifies as borderline 'important' under the ecological criteria set out with the Hedgerows Regulations 1997.

General Details:

Project Number: 1957

Date: 09/04/2013

Surveyor: Katie Critchley

Site Address: Bishopton Lane, Stratford-upon-Avon

Hedge Number: H3

Important: **Important**

Field Based Study:

Walk the hedge on one or (where access is available) both sides and for each hedge record the following information:

Section A:

- | | |
|---|-------------------------------|
| 1. Hedge Length | c.250m |
| 2. Number of standard trees (20cm diam. at 1.3m for single stemmed, 15cm diam. for multi stemmed) | 0, all trees in woodland belt |
| 3. Is there a bank or wall which supports the hedgerow along at least one half of its length? | No |
| 4. Are there gaps in aggregate $\leq 10\%$ of the length of the hedgerow? | Yes |
| 5. Is there at least one standard tree per 50m of hedge? | No |
| 6. Is there a ditch along at least one half of the length of the hedgerow? | Yes |
| 7. Is a parallel hedge present within 15m? | No |
| 8. Are there three or more woodland species? (see Section C below) | No |
| 9. Are there connections scoring at least 4 points in total? | Yes |

Connections to be scored as follows:

- Connections with another hedgerow score 1 point = 3
- Connections with a pond or woodland in which the majority of trees is broad-leaved scores 2 point = 2
- A hedgerow is considered 'connected' not only if it meets it but also if it has a point within 10 metres of it and would meet it if the line of the hedgerow continued.

Total number of additional features (3-9 above) = 3

- | | |
|--|----|
| 10. Is the hedge either adjacent to a bridleway or footway, a road used as a public footpath or a byway open to traffic? | No |
|--|----|

Section B:

For all woody species, undertake woody species counts as follows:

- For Hedges up to 30m long, count total number of woody species and tick off the species in column one.
- For hedges over 30m but not exceeding 100m long, count the number of woody species in the central 30m stretch of each half of the hedge and tick species off in column 1.
- For hedges over 100m but not exceeding 200m long, do two woody species counts: one in the central 30m stretch of each half of the hedge, tick the species off in columns 1 and 2, and calculate the mean count (i.e. divide the total count by two).
- For hedges exceeding 200m in length, do 3 woody species counts: one in the central 30m stretch of each third of the hedge, tick the species off in columns 1,2 and 3 and calculate the mean count (i.e. divide the total count by three).
- In addition, ring all woody species recorded in the hedge for a total species list.

CSa Environmental Planning – Hedgerow survey sheet (Hedgerows Regulations 1997)

	1	2	3		1	2	3		1	2	3		1	2	3		1	2	3		1	2	3								
<i>Acer camp</i> Field maple				<i>Cory Avell</i> Hazel	Y	Y	Y	<i>Euon euro</i> Spindle tree				<i>Juni comm</i> Juniper				<i>Prun aviu</i> Wild Cherry				<i>Rham cath</i> Common buckthorn				<i>Sali spp</i>	Y			<i>Tili plat</i> Large leaved lime			
<i>Alnu glut</i> Alder				<i>Coto Inte</i>				<i>Fagu sylv</i> Beech				<i>Ligu vulg</i> Privet				<i>Prun padu</i> Bird Cherry				<i>Ribe alp</i> Alpine currant				<i>Samb nig</i> Elderberry				<i>Ulex euro</i> Gorse			
<i>Betu pend</i> Silver Birch				<i>Crat Laev</i> Midland Hawthorn				<i>Fran alnu</i> Alder buckthorn				<i>Malu sylv</i> Crab apple				<i>Prun spin</i> Sloe	Y	Y	Y	<i>Ribe spic</i> Nordic currant				<i>Sorb aucu</i> Mountain ash				<i>Ulex gall</i>			
<i>Betu pube</i> White birch				<i>Crat Mono</i> Hawthorn	Y	Y	Y	<i>Frax exce</i> Ash	Y	Y	Y	<i>Popu alba</i> White Poplar				<i>Pyrus cord</i> Plymouth Pear				<i>Ribe uv-cr</i> Gooseberry				<i>Sorb torm</i> Wild service tree				<i>Ulex mino</i>			
<i>Buxe semp</i>				<i>Cyti Scop</i> Broom				<i>Hipp rham</i> Sea buckthorn				<i>P x can</i> Canadian Poplar				<i>Pyrus pyra</i>				<i>Rosa spp</i>	Y	Y	Y	<i>Sorb spp</i>				<i>Ulm spp</i> Elm			
<i>Carp betu</i> Horn-beam				<i>Daph Laur</i> Spurge Laurel				<i>Ilex aqui</i> Holly				<i>P nig bet</i>				<i>Quer petr</i> Sessile Oak	Y	Y	Y	<i>Rusc acul</i> Butcher's broom				<i>Taxu bacc</i> Yew				<i>Vibu lant</i>			
<i>Corn sang</i> Dog-wood				<i>Daph mezze</i> Mezereon				<i>Jugl regi</i> Walnut				<i>Popu trem</i>				<i>Quer robu</i> Pedunculate Oak				<i>Sali vimi</i> Osier				<i>Tili cord</i> Small leaved lime				<i>Vibu opul</i> Guelder Rose			

Woody species counts: Count 1 = 6 Count 2 = 7 Count 3 = 6 Mean count = 6.3

Section C

All woodland species within 1m of the outermost edges of the hedgerow (see list below):

<i>Adox mosc</i> Moschatel	<i>Brom ramo</i> Hairy broom	<i>Dryo f-mas</i> Male ern	<i>Geum urba</i> Wood avens	<i>Meli unif</i> Wood Melick	<i>Poly vulg</i> Milkwort	<i>Viol odor</i> Sweet violet
<i>Ajug rept</i> Bugle	<i>Camp trac</i> Nettle-leaved bell-flower	<i>Epip hell</i> Broad-leaved helleborine	<i>Hyac non-s</i> Bluebell	<i>Merc pere</i> Dog's mercury	<i>Pote errec</i> Tormentil	<i>Viol reic</i> Early dog violet
<i>Alli ursi</i> Ramsons	<i>Camp lati</i> Great bell-flower	<i>Equi sylv</i> Wood horsetail	<i>Lami gale</i> Yellow archangel	<i>Mili effu</i> Wood millet	<i>Pote ster</i>	<i>Viol rivi</i> Common dog violet
<i>Anem nemo</i> Wood anemone	<i>Care sylv</i> Wood sedge	<i>Euph amyg</i> Wood spurge	<i>Lath squa</i> Toothwort	<i>Orch masc</i> Early purple orchid	<i>Prim elat</i> Oxlip	
<i>Arum macu</i> Lords-and-ladies	<i>Circ lute</i> Enchanter's nightshade	<i>Fest giga</i> Giant fescue	<i>Luzu pilo</i> Hairy woodrush	<i>Oxal acet</i> Wood sorrel	<i>Prim vulg</i> Primrose	
<i>Aspl scol</i> Hart's tongue	<i>Cono maju</i> Pig nut	<i>Frag vesc</i> Wild strawberry	<i>Luzu sylv</i> Great woodrush	<i>Pari quad</i> Herb Paris	<i>Ranu auri</i> Goldilocks buttercups	
<i>Athy fil-fem</i> Lady fern	<i>Dryo affi</i> Scaly male-fern	<i>Gali odor</i> Woodruff	<i>Lysi nemo</i> Yellow pimpernel	<i>Poa nemo</i> Wood meadow-grass	<i>Sani euro</i> Wood sanicle	
<i>Blec spic</i> Hard fern	<i>Dryo cart</i> Narrow buckler fern	<i>Gali saxa</i> Heath bedstraw	<i>Mela prat</i> Common cow-wheat	<i>Poly acul</i> Hardshield fern	<i>Tuec scor</i> Wood sage	
<i>Brac sylv</i> Wood false-broom	<i>Dryo dila</i> Broad buckler fern	<i>Gera robe</i> Herb robert	<i>Mela sylv</i> Small cow-wheat	<i>Poly seti</i> Soft shield fern	<i>Vero mont</i> Woodspeedwell	

Total Number of woodland species: 0

Desk Based Study:

Is the hedge known to support any of the following categories of species?

- Those listed in Part 1 of Schedule 1 (birds protected by special penalties) of the Wildlife and Countryside Act 1981
- Those listed in Schedule 5 (animals which are protected) of the Wildlife and Countryside Act 1981
- Those listed in schedule 8 (plants which are protected) of the Wildlife and Countryside Act 1981
- Categorised as a declining breeder (category 3) in ‘Red Data Birds in Britain’
- Categorised as ‘endangered’, ‘extinct’, ‘rare’ or ‘vulnerable’ in one of the Red data books (see regulations for details)

If yes state which: No

Evaluation:

		Adjacent to bridleway, road used as a public path or a byway open to all traffic ?															
		No							Yes								
≥7																	
6					X												
5																	
4																	
3																	
2																	
1																	
		0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7
		Number of additional features							Number of additional features								

Table for identifying ‘important’ hedges not qualifying on the basis of the species listed in the ‘desk based study’ section above. Hedges falling within dark shaded and crossed boxes are important. Those falling within other shaded boxes would qualify as important if the number of additional features or woody species count were to increase by one. They are therefore considered to be borderline (in such cases there is a reasonable likelihood that a different surveyor or survey at a different season would result in the hedge being judged important).

The Y axis = the number of woody species. The X axis = the number of additional features.

Map / Notes:

The hedge does not qualify as ‘important’ under the Hedgerows Regulation 1997 based on the ‘desk study’ criteria.

However, as the hedge has 3 additional features and an average of 6 woody species it qualifies as ‘important’ under the ecological criteria set out with the Hedgerows Regulations 1997.

General Details:

Project Number: 1957

Date: 09/04/2013

Surveyor: Katie Critchley

Site Address: Bishopton Lane, Stratford-upon-Avon

Hedge Number: H3a

Important: **Borderline**

Field Based Study:

Walk the hedge on one or (where access is available) both sides and for each hedge record the following information:

Section A:

- | | |
|---|----------|
| 1. Hedge Length | c.50m |
| 2. Number of standard trees (20cm diam. at 1.3m for single stemmed, 15cm diam. for multi stemmed) | 0 |
| 3. Is there a bank or wall which supports the hedgerow along at least one half of its length? | No |
| 4. Are there gaps in aggregate $\leq 10\%$ of the length of the hedgerow? | Yes |
| 5. Is there at least one standard tree per 50m of hedge? | No |
| 6. Is there a ditch along at least one half of the length of the hedgerow? | Yes |
| 7. Is a parallel hedge present within 15m? | No |
| 8. Are there three or more woodland species? (see Section C below) | No |
| 9. Are there connections scoring at least 4 points in total? | Yes |
| Connections to be scored as follows: | |
| <ul style="list-style-type: none">• Connections with another hedgerow score 1 point = 2• Connections with a pond or woodland in which the majority of trees is broad-leaved scores 2 point = 2• A hedgerow is considered 'connected' not only if it meets it but also if it has a point within 10 metres of it and would meet it if the line of the hedgerow continued. | |
| Total number of additional features (3-9 above) = | 3 |
| 10. Is the hedge either adjacent to a bridleway or footway, a road used as a public footpath or a byway open to traffic? | No |

Section B:

For all woody species, undertake woody species counts as follows:

- i). For Hedges up to 30m long, count total number of woody species and tick off the species in column one.
- ii). For hedges over 30m but not exceeding 100m long, count the number of woody species in the central 30m stretch of each half of the hedge and tick species off in column 1.
- iii). For hedges over 100m but not exceeding 200m long, do two woody species counts: one in the central 30m stretch of each half of the hedge, tick the species off in columns 1 and 2, and calculate the mean count (i.e. divide the total count by two).
- iv). For hedges exceeding 200m in length, do 3 woody species counts: one in the central 30m stretch of each third of the hedge, tick the species off in columns 1,2 and 3 and calculate the mean count (i.e. divide the total count by three).
- v). In addition, ring all woody species recorded in the hedge for a total species list.

CSa Environmental Planning – Hedgerow survey sheet (Hedgerows Regulations 1997)

	1	2	3		1	2	3		1	2	3		1	2	3		1	2	3		1	2	3					
<i>Acer camp</i> Field maple				<i>Cory Avell</i> Hazel				<i>Euon euro</i> Spindle tree				<i>Juni comm</i> Juniper				<i>Prun aviu</i> Wild Cherry				<i>Rham cath</i> Common buckthorn				<i>Sali spp</i> Y	<i>Tili plat</i> Large leaved lime			
<i>Alnu glut</i> Alder				<i>Coto Inte</i>				<i>Fagu sylv</i> Beech				<i>Ligu vulg</i> Privet				<i>Prun padu</i> Bird Cherry				<i>Ribe alp</i> Alpine currant				<i>Samb nig</i> Elderberry	<i>Ulex euro</i> Gorse			
<i>Betu pend</i> Silver Birch				<i>Crat Laev</i> Midland Hawthorn				<i>Fran alnu</i> Alder buckthorn				<i>Malu sylv</i> Crab apple				<i>Prun spin</i> Sloe				<i>Ribe spic</i> Nordic currant				<i>Sorb aucu</i> Mountain ash	<i>Ulex gall</i>			
<i>Betu pube</i> White birch				<i>Crat Mono</i> Hawthorn	Y			<i>Frax exce</i> Ash				<i>Popu alba</i> White Poplar				<i>Pyrus cord</i> Plymouth Pear				<i>Ribe uv-cr</i> Gooseberry				<i>Sorb torm</i> Wild service tree	<i>Ulex mino</i>			
<i>Buxe semp</i>				<i>Cyti Scop</i> Broom				<i>Hipp rham</i> Sea buckthorn				<i>P x can</i> Canadian Poplar				<i>Pyrus pyra</i>				<i>Rosa spp</i> Y				<i>Sorb spp</i>	<i>Ulm spp</i> Elm			
<i>Carp betu</i> Hornbeam				<i>Daph Laur</i> Spurge Laurel				<i>Ilex aqui</i> Holly				<i>P nig bet</i>				<i>Quer petr</i> Sessile Oak				<i>Rusc acul</i> Butcher's broom				<i>Taxu bacc</i> Yew	<i>Vibu lant</i>			
<i>Corn sang</i> Dog-wood				<i>Daph mezze</i> Mezereon				<i>Jugl regi</i> Walnut				<i>Popu trem</i>				<i>Quer robu</i> Pedunculate Oak				<i>Sali vimi</i> Osier				<i>Tili cord</i> Small leaved lime	<i>Vibu opul</i> Guelder Rose			

Woody species counts: Count 1 = 5 Count 2 = N/A Count 3 = N/A Mean count = N/A

Section C

All woodland species within 1m of the outermost edges of the hedgerow (see list below):

<i>Adox mosc</i> Moschatel	<i>Brom ramo</i> Hairy broom	<i>Dryo f-mas</i> Male ern	<i>Geum urba</i> Wood avens	<i>Meli unif</i> Wood Melick	<i>Poly vulg</i> Milkwort	<i>Viol odor</i> Sweet violet
<i>Ajug rept</i> Bugle	<i>Camp trac</i> Nettle-leaved bell-flower	<i>Epip hell</i> Broad-leaved helleborine	<i>Hyac non-s</i> Bluebell	<i>Merc pere</i> Dog's mercury	<i>Pote erec</i> Tormentil	<i>Viol reic</i> Early dog violet
<i>Alli ursi</i> Ramsons	<i>Camp lati</i> Great bell-flower	<i>Equi sylv</i> Wood horsetail	<i>Lami gale</i> Yellow archangel	<i>Mili effu</i> Wood millet	<i>Pote ster</i>	<i>Viol rivi</i> Common dog violet
<i>Anem nemo</i> Wood anemone	<i>Care sylv</i> Wood sedge	<i>Euph amyg</i> Wood spurge	<i>Lath squa</i> Toothwort	<i>Orch masc</i> Early purple orchid	<i>Prim elat</i> Oxlip	
<i>Arum macu</i> Lords-and-ladies	<i>Circ lute</i> Enchanter's nightshade	<i>Fest giga</i> Giant fescue	<i>Luzu pilo</i> Hairy woodrush	<i>Oxal acet</i> Wood sorrel	<i>Prim vulg</i> Primrose	
<i>Aspl scol</i> Hart's tongue	<i>Cono maju</i> Pig nut	<i>Frag vesc</i> Wild strawberry	<i>Luzu sylv</i> Great woodrush	<i>Pari quad</i> Herb Paris	<i>Ranu auri</i> Goldilocks buttercups	
<i>Athy fil-fem</i> Lady fern	<i>Dryo affi</i> Scaly male-fern	<i>Gali odor</i> Woodruff	<i>Lysi nemo</i> Yellow pimpernel	<i>Poa nemo</i> Wood meadow-grass	<i>Sani euro</i> Wood sanicle	
<i>Blec spic</i> Hard fern	<i>Dryo cart</i> Narrow buckler fern	<i>Gali saxa</i> Heath bedstraw	<i>Mela prat</i> Common cow-wheat	<i>Poly acul</i> Hardshield fern	<i>Tuec scor</i> Wood sage	
<i>Brac sylv</i> Wood false-broom	<i>Dryo dila</i> Broad buckler fern	<i>Gera robe</i> Herb robert	<i>Mela sylv</i> Small cow-wheat	<i>Poly seti</i> Soft shield fern	<i>Vero mont</i> Woodspeedwell	

Total Number of woodland species: 0

Desk Based Study:

Is the hedge known to support any of the following categories of species?

- Those listed in Part 1 of Schedule 1 (birds protected by special penalties) of the Wildlife and Countryside Act 1981
- Those listed in Schedule 5 (animals which are protected) of the Wildlife and Countryside Act 1981
- Those listed in schedule 8 (plants which are protected) of the Wildlife and Countryside Act 1981
- Categorised as a declining breeder (category 3) in ‘Red Data Birds in Britain’
- Categorised as ‘endangered’, ‘extinct’, ‘rare’ or ‘vulnerable’ in one of the Red data books (see regulations for details)

If yes state which: No

Evaluation:

		Adjacent to bridleway, road used as a public path or a byway open to all traffic ?															
		No							Yes								
≥7																	
6																	
5				X													
4																	
3																	
2																	
1																	
		0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7
		Number of additional features							Number of additional features								

Table for identifying ‘important’ hedges not qualifying on the basis of the species listed in the ‘desk based study’ section above. Hedges falling within dark shaded and crossed boxes are important. Those falling within other shaded boxes would qualify as important if the number of additional features or woody species count were to increase by one. They are therefore considered to be borderline (in such cases there is a reasonable likelihood that a different surveyor or survey at a different season would result in the hedge being judged important).

The Y axis = the number of woody species. The X axis = the number of additional features.

Map / Notes:

The hedge does not qualify as ‘important’ under the Hedgerows Regulation 1997 based on the ‘desk study’ criteria.

However, as the hedge has a mean count of 5 woody species and 3 additional features it qualifies as borderline ‘important’ under the ecological criteria set out with the Hedgerows Regulations 1997.

General Details:

Project Number: 1957

Date: 09/04/2013

Surveyor: Katie Critchley

Site Address: Bishopton Lane, Stratford-upon-Avon

Hedge Number: H4

Important: **Borderline**

Field Based Study:

Walk the hedge on one or (where access is available) both sides and for each hedge record the following information:

Section A:

- | | |
|---|--------|
| 1. Hedge Length | c.250m |
| 2. Number of standard trees (20cm diam. at 1.3m for single stemmed, 15cm diam. for multi stemmed) | 0 |
| 3. Is there a bank or wall which supports the hedgerow along at least one half of its length? | Yes |
| 4. Are there gaps in aggregate $\leq 10\%$ of the length of the hedgerow? | Yes |
| 5. Is there at least one standard tree per 50m of hedge? | No |
| 6. Is there a ditch along at least one half of the length of the hedgerow? | Yes |
| 7. Is a parallel hedge present within 15m? | No |
| 8. Are there three or more woodland species? (see Section C below) | No |
| 9. Are there connections scoring at least 4 points in total? | Yes |

Connections to be scored as follows:

- Connections with another hedgerow score 1 point = 2
- Connections with a pond or woodland in which the majority of trees is broad-leaved scores 2 point = 2
- A hedgerow is considered 'connected' not only if it meets it but also if it has a point within 10 metres of it and would meet it if the line of the hedgerow continued.

Total number of additional features (3-9 above) = 4

- | | |
|--|----|
| 10. Is the hedge either adjacent to a bridleway or footway, a road used as a public footpath or a byway open to traffic? | No |
|--|----|

Section B:

For all woody species, undertake woody species counts as follows:

- For Hedges up to 30m long, count total number of woody species and tick off the species in column one.
- For hedges over 30m but not exceeding 100m long, count the number of woody species in the central 30m stretch of each half of the hedge and tick species off in column 1.
- For hedges over 100m but not exceeding 200m long, do two woody species counts: one in the central 30m stretch of each half of the hedge, tick the species off in columns 1 and 2, and calculate the mean count (i.e. divide the total count by two).
- For hedges exceeding 200m in length, do 3 woody species counts: one in the central 30m stretch of each third of the hedge, tick the species off in columns 1,2 and 3 and calculate the mean count (i.e. divide the total count by three).
- In addition, ring all woody species recorded in the hedge for a total species list.

CSa Environmental Planning – Hedgerow survey sheet (Hedgerows Regulations 1997)

	1	2	3		1	2	3		1	2	3		1	2	3		1	2	3		1	2	3									
<i>Acer camp</i> Field maple				<i>Cory Avell</i> Hazel				<i>Euon euro</i> Spindle tree				<i>Juni comm</i> Juniper				<i>Prun aviu</i> Wild Cherry				<i>Rham cath</i> Common buckthorn				<i>Sali spp</i>				<i>Tili plat</i> Large leaved lime				
<i>Alnu glut</i> Alder				<i>Coto Inte</i>				<i>Fagu sylv</i> Beech				<i>Ligu vulg</i> Privet			Y	<i>Prun padu</i> Bird Cherry				<i>Ribe alp</i> Alpine currant				<i>Samb nig</i> Elderberry		Y	Y	Y	<i>Ulex euro</i> Gorse			
<i>Betu pend</i> Silver Birch				<i>Crat Laev</i> Midland Hawthorn				<i>Fran alnu</i> Alder buckthorn				<i>Malu sylv</i> Crab apple				<i>Prun spin</i> Sloe		Y	Y	Y	<i>Ribe spic</i> Nordic currant				<i>Sorb aucu</i> Mountain ash				<i>Ulex gall</i>			
<i>Betu pube</i> White birch				<i>Crat Mono</i> Hawthorn	Y	Y	Y	<i>Frax exce</i> Ash			Y	<i>Popu alba</i> White Poplar				<i>Pyrus cord</i> Plymouth Pear				<i>Ribe uv-cr</i> Gooseberry				<i>Sorb torm</i> Wild service tree				<i>Ulex mino</i>				
<i>Buxe semp</i>				<i>Cyti Scop</i> Broom				<i>Hipp rham</i> Sea buckthorn				<i>P x can</i> Canadian Poplar				<i>Pyrus pyra</i>				<i>Rosa spp</i>		Y	Y	Y	<i>Sorb spp</i>				<i>Ulm spp</i> Elm			
<i>Carp betu</i> Horn-beam				<i>Daph Laur</i> Spurge Laurel				<i>Ilex aqui</i> Holly				<i>P nig bet</i>				<i>Quer petr</i> Sessile Oak				<i>Rusc acul</i> Butcher's broom				<i>Taxu bacc</i> Yew				<i>Vibu lant</i>				
<i>Corn sang</i> Dog-wood				<i>Daph mezze</i> Mezereon				<i>Jugl regi</i> Walnut				<i>Popu trem</i>				<i>Quer robu</i> Pedunculate Oak				<i>Sali vimi</i> Osier				<i>Tili cord</i> Small leaved lime				<i>Vibu opul</i> Guelder Rose				

Woody species counts: Count 1 = 4 Count 2 = 5 Count 3 = 5 Mean count = 4.6

Section C

All woodland species within 1m of the outermost edges of the hedgerow (see list below):

<i>Adox mosc</i> Moschatel	<i>Brom ramo</i> Hairy broom	<i>Dryo f-mas</i> Male ern	<i>Geum urba</i> Wood avens	<i>Meli unif</i> Wood Melick	<i>Poly vulg</i> Milkwort	<i>Viol odor</i> Sweet violet
<i>Ajug rept</i> Bugle	<i>Camp trac</i> Nettle-leaved bell-flower	<i>Epip hell</i> Broad-leaved helleborine	<i>Hyac non-s</i> Bluebell	<i>Merc pere</i> Dog's mercury	<i>Pote eroc</i> Tormentil	<i>Viol reic</i> Early dog violet
<i>Alli ursi</i> Ramsons	<i>Camp lati</i> Great bell-flower	<i>Equi sylv</i> Wood horsetail	<i>Lami gale</i> Yellow archangel	<i>Mili effu</i> Wood millet	<i>Pote ster</i>	<i>Viol rivi</i> Common dog violet
<i>Anem nemo</i> Wood anemone	<i>Care sylv</i> Wood sedge	<i>Euph amyg</i> Wood spurge	<i>Lath squa</i> Toothwort	<i>Orch masc</i> Early purple orchid	<i>Prim elat</i> Oxlip	
Arum macu Lords-and-ladies	<i>Circ lute</i> Enchanter's nightshade	<i>Fest giga</i> Giant fescue	<i>Luzu pilo</i> Hairy woodrush	<i>Oxal acet</i> Wood sorrel	<i>Prim vulg</i> Primrose	
<i>Aspl scol</i> Hart's tongue	<i>Cono maju</i> Pig nut	<i>Frag vesc</i> Wild strawberry	<i>Luzu sylv</i> Great woodrush	<i>Pari quad</i> Herb Paris	<i>Ranu auri</i> Goldilocks buttercups	
<i>Athy fil-fem</i> Lady fern	<i>Dryo affi</i> Scaly male-fern	<i>Gali odor</i> Woodruff	<i>Lysi nemo</i> Yellow pimpernel	<i>Poa nemo</i> Wood meadow-grass	<i>Sani euro</i> Wood sanicle	
<i>Blec spic</i> Hard fern	<i>Dryo cart</i> Narrow buckler fern	<i>Gali saxa</i> Heath bedstraw	<i>Mela prat</i> Common cow-wheat	<i>Poly acul</i> Hardshield fern	<i>Tuec scor</i> Wood sage	
<i>Brac sylv</i> Wood false-broom	<i>Dryo dila</i> Broad buckler fern	<i>Gera robe</i> Herb robert	<i>Mela sylv</i> Small cow-wheat	<i>Poly seti</i> Soft shield fern	<i>Vero mont</i> Woodspeedwell	

Total Number of woodland species: 1

Desk Based Study:

Is the hedge known to support any of the following categories of species?

- Those listed in Part 1 of Schedule 1 (birds protected by special penalties) of the Wildlife and Countryside Act 1981
- Those listed in Schedule 5 (animals which are protected) of the Wildlife and Countryside Act 1981
- Those listed in schedule 8 (plants which are protected) of the Wildlife and Countryside Act 1981
- Categorised as a declining breeder (category 3) in ‘Red Data Birds in Britain’
- Categorised as ‘endangered’, ‘extinct’, ‘rare’ or ‘vulnerable’ in one of the Red data books (see regulations for details)

If yes state which: No

Evaluation:

		Adjacent to bridleway, road used as a public path or a byway open to all traffic ?															
		No							Yes								
≥7																	
6																	
5																	
4																	
3					X												
2																	
1																	
		0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7
		Number of additional features							Number of additional features								

Table for identifying ‘important’ hedges not qualifying on the basis of the species listed in the ‘desk based study’ section above. Hedges falling within dark shaded and crossed boxes are important. Those falling within other shaded boxes would qualify as important if the number of additional features or woody species count were to increase by one. They are therefore considered to be borderline (in such cases there is a reasonable likelihood that a different surveyor or survey at a different season would result in the hedge being judged important).

The Y axis = the number of woody species. The X axis = the number of additional features.

Map / Notes:

The hedge does not qualify as ‘important’ under the Hedgerows Regulation 1997 based on the ‘desk study’ criteria.

However, as the hedge is situated next to a byway open to all traffic, has a mean count of 4.6 woody species and 4 additional features it qualifies as ‘important’ under the ecological criteria set out with the Hedgerows Regulations 1997.

General Details:

Project Number: 1957

Date: 09/04/2013

Surveyor: Katie Critchley

Site Address: Bishopton Lane, Stratford-upon-Avon

Hedge Number: H5

Important: **Important**

Field Based Study:

Walk the hedge on one or (where access is available) both sides and for each hedge record the following information:

Section A:

- | | |
|---|--------|
| 1. Hedge Length | c.250m |
| 2. Number of standard trees (20cm diam. at 1.3m for single stemmed, 15cm diam. for multi stemmed) | 0 |
| 3. Is there a bank or wall which supports the hedgerow along at least one half of its length? | Yes |
| 4. Are there gaps in aggregate $\leq 10\%$ of the length of the hedgerow? | Yes |
| 5. Is there at least one standard tree per 50m of hedge? | No |
| 6. Is there a ditch along at least one half of the length of the hedgerow? | Yes |
| 7. Is a parallel hedge present within 15m? | No |
| 8. Are there three or more woodland species? (see Section C below) | No |
| 9. Are there connections scoring at least 4 points in total? | Yes |

Connections to be scored as follows:

- Connections with another hedgerow score 1 point = 4
- Connections with a pond or woodland in which the majority of trees is broad-leaved scores 2 point = 2
- A hedgerow is considered 'connected' not only if it meets it but also if it has a point within 10 metres of it and would meet it if the line of the hedgerow continued.

Total number of additional features (3-9 above) = 4

- | | |
|--|----|
| 10. Is the hedge either adjacent to a bridleway or footway, a road used as a public footpath or a byway open to traffic? | No |
|--|----|

Section B:

For all woody species, undertake woody species counts as follows:

- For Hedges up to 30m long, count total number of woody species and tick off the species in column one.
- For hedges over 30m but not exceeding 100m long, count the number of woody species in the central 30m stretch of each half of the hedge and tick species off in column 1.
- For hedges over 100m but not exceeding 200m long, do two woody species counts: one in the central 30m stretch of each half of the hedge, tick the species off in columns 1 and 2, and calculate the mean count (i.e. divide the total count by two).
- For hedges exceeding 200m in length, do 3 woody species counts: one in the central 30m stretch of each third of the hedge, tick the species off in columns 1,2 and 3 and calculate the mean count (i.e. divide the total count by three).
- In addition, ring all woody species recorded in the hedge for a total species list.

CSa Environmental Planning – Hedgerow survey sheet (Hedgerows Regulations 1997)

	1	2	3		1	2	3		1	2	3		1	2	3		1	2	3		1	2	3								
<i>Acer camp</i> Field maple	Y			<i>Cory Avell</i> Hazel				<i>Euon euro</i> Spindle tree				<i>Juni comm</i> Juniper				<i>Prun aviu</i> Wild Cherry				<i>Rham cath</i> Common buckthorn				<i>Sali spp</i>				<i>Tili plat</i> Large leaved lime			
<i>Alnu glut</i> Alder				<i>Coto Inte</i>				<i>Fagu sylv</i> Beech				<i>Ligu vulg</i> Privet	Y			<i>Prun padu</i> Bird Cherry				<i>Ribe alp</i> Alpine currant				<i>Samb nig</i> Elderberry		Y	Y	<i>Ulex euro</i> Gorse			
<i>Betu pend</i> Silver Birch				<i>Crat Laev</i> Midland Hawthorn				<i>Fran alnu</i> Alder buckthorn				<i>Malu sylv</i> Crab apple	Y			<i>Prun spin</i> Sloe	Y	Y	Y	<i>Ribe spic</i> Nordic currant				<i>Sorb aucu</i> Mountain ash				<i>Ulex gall</i>			
<i>Betu pube</i> White birch				<i>Crat Mono</i> Hawthorn	Y	Y	Y	<i>Frax exce</i> Ash	Y	Y		<i>Popu alba</i> White Poplar				<i>Pyrus cord</i> Plymouth Pear				<i>Ribe uv-cr</i> Gooseberry				<i>Sorb torm</i> Wild service tree				<i>Ulex mino</i>			
<i>Buxe semp</i>				<i>Cyti Scop</i> Broom				<i>Hipp rham</i> Sea buckthorn				<i>P x can</i> Canadian Poplar				<i>Pyrus pyra</i>				<i>Rosa spp</i>	Y	Y		<i>Sorb spp</i>				<i>Ulmus spp</i> Elm	Y	Y	
<i>Carp betu</i> Horn-beam				<i>Daph Laur</i> Spurge Laurel				<i>Ilex aqui</i> Holly				<i>P nig bet</i>				<i>Quer petr</i> Sessile Oak				<i>Rusc acul</i> Butcher's broom				<i>Taxu bacc</i> Yew				<i>Vibu lant</i>			
<i>Corn sang</i> Dog-wood				<i>Daph mezze</i> Mezereon				<i>Jugl regi</i> Walnut				<i>Popu trem</i>				<i>Quer robu</i> Pedunculate Oak				<i>Sali vimi</i> Osier				<i>Tili cord</i> Small leaved lime				<i>Vibu opul</i> Guelder Rose			

Woody species counts: Count 1 = 8 Count 2 = 3 Count 3 = 6 Mean count = 5.6

Section C

All woodland species within 1m of the outermost edges of the hedgerow (see list below):

<i>Adox mosc</i> Moschatel	<i>Brom ramo</i> Hairy broom	<i>Dryas f-mas</i> Male ern	<i>Geum urba</i> Wood avens	<i>Meli unif</i> Wood Melick	<i>Poly vulg</i> Milkwort	<i>Viol odor</i> Sweet violet
<i>Ajug rept</i> Bugle	<i>Camp trac</i> Nettle-leaved bell-flower	<i>Epip hell</i> Broad-leaved helleborine	<i>Hyac non-s</i> Bluebell	<i>Merc pere</i> Dog's mercury	<i>Pote eroc</i> Tormentil	<i>Viol reic</i> Early dog violet
<i>Alli ursi</i> Ramsons	<i>Camp lati</i> Great bell-flower	<i>Equi sylv</i> Wood horsetail	<i>Lami gale</i> Yellow archangel	<i>Mili effu</i> Wood millet	<i>Pote ster</i>	<i>Viol rivi</i> Common dog violet
<i>Anem nemo</i> Wood anemone	<i>Care sylv</i> Wood sedge	<i>Euph amyg</i> Wood spurge	<i>Lath squa</i> Toothwort	<i>Orch masc</i> Early purple orchid	<i>Prim elat</i> Oxlip	
Arum macu Lords-and-ladies	<i>Circ lute</i> Enchanter's nightshade	<i>Fest giga</i> Giant fescue	<i>Luzu pilo</i> Hairy woodrush	<i>Oxal acet</i> Wood sorrel	<i>Prim vulg</i> Primrose	
<i>Aspl scol</i> Hart's tongue	<i>Cono maju</i> Pig nut	<i>Frag vesc</i> Wild strawberry	<i>Luzu sylv</i> Great woodrush	<i>Pari quad</i> Herb Paris	<i>Ranu auri</i> Goldilocks buttercups	
<i>Athy fil-fem</i> Lady fern	<i>Dryas affi</i> Scaly male-fern	<i>Gali odor</i> Woodruff	<i>Lysi nemo</i> Yellow pimpernel	<i>Poa nemo</i> Wood meadow-grass	<i>Sani euro</i> Wood sanicle	
<i>Blec spic</i> Hard fern	<i>Dryas cart</i> Narrow buckler fern	<i>Gali saxa</i> Heath bedstraw	<i>Mela prat</i> Common cow-wheat	<i>Poly acul</i> Hardshield fern	<i>Tuec scor</i> Wood sage	
<i>Brac sylv</i> Wood false-broom	<i>Dryas dila</i> Broad buckler fern	<i>Gera robe</i> Herb robert	<i>Mela sylv</i> Small cow-wheat	<i>Poly seti</i> Soft shield fern	<i>Vero mont</i> Woodspeedwell	

Total Number of woodland species: 1

Desk Based Study:

Is the hedge known to support any of the following categories of species?

- Those listed in Part 1 of Schedule 1 (birds protected by special penalties) of the Wildlife and Countryside Act 1981
- Those listed in Schedule 5 (animals which are protected) of the Wildlife and Countryside Act 1981
- Those listed in schedule 8 (plants which are protected) of the Wildlife and Countryside Act 1981
- Categorised as a declining breeder (category 3) in ‘Red Data Birds in Britain’
- Categorised as ‘endangered’, ‘extinct’, ‘rare’ or ‘vulnerable’ in one of the Red data books (see regulations for details)

If yes state which: No

Evaluation:

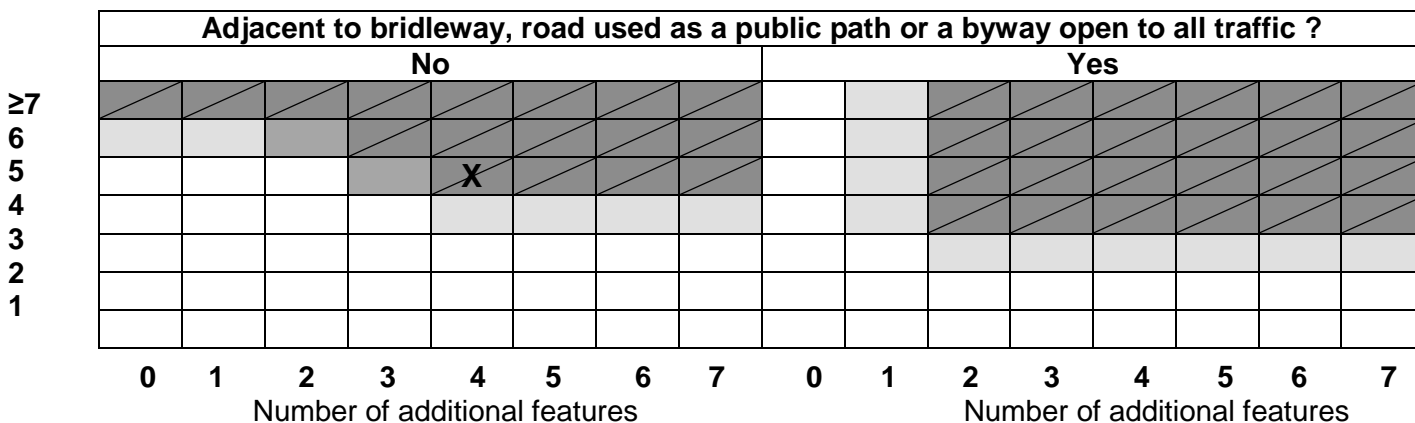


Table for identifying ‘important’ hedges not qualifying on the basis of the species listed in the ‘desk based study’ section above. Hedges falling within dark shaded and crossed boxes are important. Those falling within other shaded boxes would qualify as important if the number of additional features or woody species count were to increase by one. They are therefore considered to be borderline (in such cases there is a reasonable likelihood that a different surveyor or survey at a different season would result in the hedge being judged important).

The Y axis = the number of woody species. The X axis = the number of additional features.

Map / Notes:

The hedge does not qualify as ‘important’ under the Hedgerows Regulation 1997 based on the ‘desk study’ criteria.

However, as the hedge has a mean count of 5.6 woody species and 4 additional features it qualifies as Important under the ecological criteria set out with the Hedgerows Regulations 1997.

General Details:

Project Number: 1957

Date: 09/04/2013

Surveyor: Katie Critchley

Site Address: Bishopton Lane, Stratford-upon-Avon

Hedge Number: H6

Important: **Important**

Field Based Study:

Walk the hedge on one or (where access is available) both sides and for each hedge record the following information:

Section A:

- | | |
|---|--------|
| 1. Hedge Length | c.250m |
| 2. Number of standard trees (20cm diam. at 1.3m for single stemmed, 15cm diam. for multi stemmed) | 4 |
| 3. Is there a bank or wall which supports the hedgerow along at least one half of its length? | Yes |
| 4. Are there gaps in aggregate $\leq 10\%$ of the length of the hedgerow? | Yes |
| 5. Is there at least one standard tree per 50m of hedge? | No |
| 6. Is there a ditch along at least one half of the length of the hedgerow? | Yes |
| 7. Is a parallel hedge present within 15m? | No |
| 8. Are there three or more woodland species? (see Section C below) | No |
| 9. Are there connections scoring at least 4 points in total? | No |

Connections to be scored as follows:

- Connections with another hedgerow score 1 point = 3
- Connections with a pond or woodland in which the majority of trees is broad-leaved scores 2 point = 0
- A hedgerow is considered 'connected' not only if it meets it but also if it has a point within 10 metres of it and would meet it if the line of the hedgerow continued.

Total number of additional features (3-9 above) = 3

- | | |
|--|-----|
| 10. Is the hedge either adjacent to a bridleway or footway, a road used as a public footpath or a byway open to traffic? | Yes |
|--|-----|

Section B:

For all woody species, undertake woody species counts as follows:

- For Hedges up to 30m long, count total number of woody species and tick off the species in column one.
- For hedges over 30m but not exceeding 100m long, count the number of woody species in the central 30m stretch of each half of the hedge and tick species off in column 1.
- For hedges over 100m but not exceeding 200m long, do two woody species counts: one in the central 30m stretch of each half of the hedge, tick the species off in columns 1 and 2, and calculate the mean count (i.e. divide the total count by two).
- For hedges exceeding 200m in length, do 3 woody species counts: one in the central 30m stretch of each third of the hedge, tick the species off in columns 1,2 and 3 and calculate the mean count (i.e. divide the total count by three).
- In addition, ring all woody species recorded in the hedge for a total species list.

CSa Environmental Planning – Hedgerow survey sheet (Hedgerows Regulations 1997)

	1	2	3		1	2	3		1	2	3		1	2	3		1	2	3		1	2	3								
<i>Acer camp</i> Field maple	Y	Y	Y	<i>Cory Avell</i> Hazel				<i>Euon euro</i> Spindle tree				<i>Juni comm</i> Juniper				<i>Prun aviu</i> Wild Cherry				<i>Rham cath</i> Common buckthorn				<i>Sali spp</i>				<i>Tili plat</i> Large leaved lime			
<i>Alnu glut</i> Alder				<i>Coto Inte</i>				<i>Fagu sylv</i> Beech				<i>Ligu vulg</i> Privet	Y	Y	Y	<i>Prun padu</i> Bird Cherry				<i>Ribe alp</i> Alpine currant				<i>Samb nig</i> Elderberry		Y	Y	<i>Ulex euro</i> Gorse			
<i>Betu pend</i> Silver Birch				<i>Crat Laev</i> Midland Hawthorn				<i>Fran alnu</i> Alder buckthorn				<i>Malu sylv</i> Crab apple				<i>Prun spin</i> Sloe	Y	Y	Y	<i>Ribe spic</i> Nordic currant				<i>Sorb aucu</i> Mountain ash				<i>Ulex gall</i>			
<i>Betu pube</i> White birch				<i>Crat Mono</i> Hawthorn	Y	Y	Y	<i>Frax exce</i> Ash		Y		<i>Popu alba</i> White Poplar				<i>Pyru cord</i> Plymouth Pear				<i>Ribe uv-cr</i> Gooseberry				<i>Sorb torm</i> Wild service tree				<i>Ulex mino</i>			
<i>Buxe semp</i>				<i>Cyti Scop</i> Broom				<i>Hipp rham</i> Sea buckthorn				<i>P x can</i> Canadian Poplar				<i>Pyru pyra</i>				<i>Rosa spp</i>			Y	<i>Sorb spp</i>				<i>Ulm spp</i> Elm	Y		Y
<i>Carp betu</i> Horn-beam				<i>Daph Laur</i> Spurge Laurel				<i>Ilex aqui</i> Holly				<i>P nig bet</i>				<i>Quer petr</i> Sessile Oak				<i>Rusc acul</i> Butcher's broom				<i>Taxu bacc</i> Yew				<i>Vibu lant</i>			
<i>Corn sang</i> Dog-wood				<i>Daph mezze</i> Mezereon				<i>Jugl regi</i> Walnut				<i>Popu trem</i>				<i>Quer robu</i> Pedunculate Oak				<i>Sali vimi</i> Osier				<i>Tili cord</i> Small leaved lime				<i>Vibu opul</i> Guelder Rose			

Woody species counts: Count 1 = 5 Count 2 = 5 Count 3 = 8 Mean count = 6

Section C

All woodland species within 1m of the outermost edges of the hedgerow (see list below):

<i>Adox mosc</i> Moschatel	<i>Brom ramo</i> Hairy broom	<i>Dryo f-mas</i> Male ern	<i>Geum urba</i> Wood avens	<i>Meli unif</i> Wood Melick	<i>Poly vulg</i> Milkwort	<i>Viol odor</i> Sweet violet
<i>Ajug rept</i> Bugle	<i>Camp trac</i> Nettle-leaved bell-flower	<i>Epip hell</i> Broad-leaved helleborine	<i>Hyac non-s</i> Bluebell	<i>Merc pere</i> Dog's mercury	<i>Pote erec</i> Tormentil	<i>Viol reic</i> Early dog violet
<i>Alli ursi</i> Ramsons	<i>Camp lati</i> Great bell-flower	<i>Equi sylv</i> Wood horsetail	<i>Lami gale</i> Yellow archangel	<i>Mili effu</i> Wood millet	<i>Pote ster</i>	<i>Viol rivi</i> Common dog violet
<i>Anem nemo</i> Wood anemone	<i>Care sylv</i> Wood sedge	<i>Euph amyg</i> Wood spurge	<i>Lath squa</i> Toothwort	<i>Orch masc</i> Early purple orchid	<i>Prim elat</i> Oxlip	
Arum macu Lords-and-ladies	<i>Circ lute</i> Enchanter's nightshade	<i>Fest giga</i> Giant fescue	<i>Luzu pilo</i> Hairy woodrush	<i>Oxal acet</i> Wood sorrel	<i>Prim vulg</i> Primrose	
<i>Aspl scol</i> Hart's tongue	<i>Cono maju</i> Pig nut	<i>Frag vesc</i> Wild strawberry	<i>Luzu sylv</i> Great woodrush	<i>Pari quad</i> Herb Paris	<i>Ranu auri</i> Goldilocks buttercups	
<i>Athy fil-fem</i> Lady fern	<i>Dryo affi</i> Scaly male-fern	<i>Gali odor</i> Woodruff	<i>Lysi nemo</i> Yellow pimpernel	<i>Poa nemo</i> Wood meadow-grass	<i>Sani euro</i> Wood sanicle	
<i>Blec spic</i> Hard fern	<i>Dryo cart</i> Narrow buckler fern	<i>Gali saxa</i> Heath bedstraw	<i>Mela prat</i> Common cow-wheat	<i>Poly acul</i> Hardshield fern	<i>Tuec scor</i> Wood sage	
<i>Brac sylv</i> Wood false-broom	<i>Dryo dila</i> Broad buckler fern	<i>Gera robe</i> Herb robert	<i>Mela sylv</i> Small cow-wheat	<i>Poly seti</i> Soft shield fern	<i>Vero mont</i> Woodspeedwell	

Total Number of woodland species: 1

Desk Based Study:

Is the hedge known to support any of the following categories of species?

- Those listed in Part 1 of Schedule 1 (birds protected by special penalties) of the Wildlife and Countryside Act 1981
- Those listed in Schedule 5 (animals which are protected) of the Wildlife and Countryside Act 1981
- Those listed in schedule 8 (plants which are protected) of the Wildlife and Countryside Act 1981
- Categorised as a declining breeder (category 3) in 'Red Data Birds in Britain'
- Categorised as 'endangered', 'extinct', 'rare' or 'vulnerable' in one of the Red data books (see regulations for details)

If yes state which: No

Evaluation:

		Adjacent to bridleway, road used as a public path or a byway open to all traffic ?															
		No							Yes								
≥7																	
6												X					
5																	
4																	
3																	
2																	
1																	
		0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7
		Number of additional features							Number of additional features								

Table for identifying 'important' hedges not qualifying on the basis of the species listed in the 'desk based study' section above. Hedges falling within dark shaded and crossed boxes are important. Those falling within other shaded boxes would qualify as important if the number of additional features or woody species count were to increase by one. They are therefore considered to be borderline (in such cases there is a reasonable likelihood that a different surveyor or survey at a different season would result in the hedge being judged important).

The Y axis = the number of woody species. The X axis = the number of additional features.

Map / Notes:

The hedge does not qualify as 'important' under the Hedgerows Regulation 1997 based on the 'desk study' criteria.

However, as the hedge is situated next to a byway open to non-vehicular traffic, has a mean count of 6 woody species and 3 additional features, it qualifies as 'important' under the ecological criteria set out with the Hedgerows Regulations 1997.

General Details:

Project Number: 1957

Date: 09/04/2013

Surveyor: Katie Critchley

Site Address: Bishopton Lane, Stratford-upon-Avon

Hedge Number: H6a

Important: **Borderline**

Field Based Study:

Walk the hedge on one or (where access is available) both sides and for each hedge record the following information:

Section A:

- | | |
|---|-------|
| 1. Hedge Length | c.75m |
| 2. Number of standard trees (20cm diam. at 1.3m for single stemmed, 15cm diam. for multi stemmed) | 0 |
| 3. Is there a bank or wall which supports the hedgerow along at least one half of its length? | No |
| 4. Are there gaps in aggregate $\leq 10\%$ of the length of the hedgerow? | No |
| 5. Is there at least one standard tree per 50m of hedge? | No |
| 6. Is there a ditch along at least one half of the length of the hedgerow? | No |
| 7. Is a parallel hedge present within 15m? | Yes |
| 8. Are there three or more woodland species? (see Section C below) | No |
| 9. Are there connections scoring at least 4 points in total? | No |

Connections to be scored as follows:

- Connections with another hedgerow score 1 point = 2
- Connections with a pond or woodland in which the majority of trees is broad-leaved scores 2 point = 0
- A hedgerow is considered 'connected' not only if it meets it but also if it has a point within 10 metres of it and would meet it if the line of the hedgerow continued.

Total number of additional features (3-9 above) = 1

- | | |
|--|----|
| 10. Is the hedge either adjacent to a bridleway or footway, a road used as a public footpath or a byway open to traffic? | No |
|--|----|

Section B:

For all woody species, undertake woody species counts as follows:

- i). For Hedges up to 30m long, count total number of woody species and tick off the species in column one.
- ii). For hedges over 30m but not exceeding 100m long, count the number of woody species in the central 30m stretch of each half of the hedge and the tick species off in column 1.
- iii). For hedges over 100m but not exceeding 200m long, do two woody species counts: one in the central 30m stretch of each half of the hedge, tick the species off in columns 1 and 2, and calculate the mean count (i.e. divide the total count by two).
- iv). For hedges exceeding 200m in length, do 3 woody species counts: one in the central 30m stretch of each third of the hedge, tick the species off in columns 1,2 and 3 and calculate the mean count (i.e. divide the total count by three).
- v). In addition, ring all woody species recorded in the hedge for a total species list.

CSa Environmental Planning – Hedgerow survey sheet (Hedgerows Regulations 1997)

	1	2	3		1	2	3		1	2	3		1	2	3		1	2	3		1	2	3								
<i>Acer camp</i> Field maple	Y			<i>Cory Avell</i> Hazel				<i>Euon euro</i> Spindle tree				<i>Juni comm</i> Juniper				<i>Prun aviu</i> Wild Cherry				<i>Rham cath</i> Common buckthorn				<i>Sali spp</i>				<i>Tili plat</i> Large leaved lime			
<i>Alnu glut</i> Alder				<i>Coto Inte</i>				<i>Fagu sylv</i> Beech				<i>Ligu vulg</i> Privet	Y			<i>Prun padu</i> Bird Cherry				<i>Ribe alp</i> Alpine currant				<i>Samb nig</i> Elderberry				<i>Ulex euro</i> Gorse			
<i>Betu pend</i> Silver Birch				<i>Crat Laev</i> Midland Hawthorn				<i>Fran alnu</i> Alder buckthorn				<i>Malu sylv</i> Crab apple				<i>Prun spin</i> Sloe	Y			<i>Ribe spic</i> Nordic currant				<i>Sorb aucu</i> Mountain ash				<i>Ulex gall</i>			
<i>Betu pube</i> White birch				<i>Crat Mono</i> Hawthorn	Y			<i>Frax exce</i> Ash				<i>Popu alba</i> White Poplar				<i>Pyr cord</i> Plymouth Pear				<i>Ribe uv-cr</i> Gooseberry				<i>Sorb torm</i> Wild service tree				<i>Ulex mino</i>			
<i>Buxe semp</i>				<i>Cyti Scop</i> Broom				<i>Hipp rham</i> Sea buckthorn				<i>P x can</i> Canadian Poplar				<i>Pyr pyra</i>				<i>Rosa spp</i>	Y			<i>Sorb spp</i>				<i>Ulm spp</i> Elm	Y		
<i>Carp betu</i> Horn-beam				<i>Daph Laur</i> Spurge Laurel				<i>Ilex aqui</i> Holly				<i>P nig bet</i>				<i>Quer petr</i> Sessile Oak				<i>Rusc acul</i> Butcher's broom				<i>Taxu bacc</i> Yew				<i>Vibu lant</i>			
<i>Corn sang</i> Dog-wood				<i>Daph mezze</i> Mezereon				<i>Jugl regi</i> Walnut				<i>Popu trem</i>				<i>Quer robu</i> Pedunculate Oak				<i>Sali vimi</i> Osier				<i>Tili cord</i> Small leaved lime				<i>Vibu opul</i> Guelder Rose			

Woody species counts: Count 1 = 6 Count 2 = N/A Count 3 = N/A Mean count = N/A

Section C

All woodland species within 1m of the outermost edges of the hedgerow (see list below):

<i>Adox mosc</i> Moschatel	<i>Brom ramo</i> Hairy broom	<i>Dryo f-mas</i> Male ern	<i>Geum urba</i> Wood avens	<i>Meli unif</i> Wood Melick	<i>Poly vulg</i> Milkwort	<i>Viol odor</i> Sweet violet
<i>Ajug rept</i> Bugle	<i>Camp trac</i> Nettle-leaved bell-flower	<i>Epip hell</i> Broad-leaved helleborine	<i>Hyac non-s</i> Bluebell	<i>Merc pere</i> Dog's mercury	<i>Pote errec</i> Tormentil	<i>Viol reic</i> Early dog violet
<i>Alli ursi</i> Ramsons	<i>Camp lati</i> Great bell-flower	<i>Equi sylv</i> Wood horsetail	<i>Lami gale</i> Yellow archangel	<i>Mili effu</i> Wood millet	<i>Pote ster</i>	<i>Viol rivi</i> Common dog violet
<i>Anem nemo</i> Wood anemone	<i>Care sylv</i> Wood sedge	<i>Euph amyg</i> Wood spurge	<i>Lath squa</i> Toothwort	<i>Orch masc</i> Early purple orchid	<i>Prim elat</i> Oxlip	
Arum macu Lords-and-ladies	<i>Circ lute</i> Enchanter's nightshade	<i>Fest giga</i> Giant fescue	<i>Luzu pilo</i> Hairy woodrush	<i>Oxal acet</i> Wood sorrel	<i>Prim vulg</i> Primrose	
<i>Aspl scol</i> Hart's tongue	<i>Cono maju</i> Pig nut	<i>Frag vesc</i> Wild strawberry	<i>Luzu sylv</i> Great woodrush	<i>Pari quad</i> Herb Paris	<i>Ranu auri</i> Goldilocks buttercups	
<i>Athy fil-fem</i> Lady fern	<i>Dryo affi</i> Scaly male-fern	<i>Gali odor</i> Woodruff	<i>Lysi nemo</i> Yellow pimpernel	<i>Poa nemo</i> Wood meadow-grass	<i>Sani euro</i> Wood sanicle	
<i>Blec spic</i> Hard fern	<i>Dryo cart</i> Narrow buckler fern	<i>Gali saxa</i> Heath bedstraw	<i>Mela prat</i> Common cow-wheat	<i>Poly acul</i> Hardshield fern	<i>Tuec scor</i> Wood sage	
<i>Brac sylv</i> Wood false-broom	<i>Dryo dila</i> Broad buckler fern	<i>Gera robe</i> Herb robert	<i>Mela sylv</i> Small cow-wheat	<i>Poly seti</i> Soft shield fern	<i>Vero mont</i> Woodspeedwell	

Total Number of woodland species: 1

Desk Based Study:

Is the hedge known to support any of the following categories of species?

- Those listed in Part 1 of Schedule 1 (birds protected by special penalties) of the Wildlife and Countryside Act 1981
- Those listed in Schedule 5 (animals which are protected) of the Wildlife and Countryside Act 1981
- Those listed in schedule 8 (plants which are protected) of the Wildlife and Countryside Act 1981
- Categorised as a declining breeder (category 3) in ‘Red Data Birds in Britain’
- Categorised as ‘endangered’, ‘extinct’, ‘rare’ or ‘vulnerable’ in one of the Red data books (see regulations for details)

If yes state which: No

Evaluation:

		Adjacent to bridleway, road used as a public path or a byway open to all traffic?															
		No							Yes								
≥7																	
6	X																
5																	
4																	
3																	
2																	
1																	
		0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7
		Number of additional features							Number of additional features								

Table for identifying ‘important’ hedges not qualifying on the basis of the species listed in the ‘desk based study’ section above. Hedges falling within dark shaded and crossed boxes are important. Those falling within other shaded boxes would qualify as important if the number of additional features or woody species count were to increase by one. They are therefore considered to be borderline (in such cases there is a reasonable likelihood that a different surveyor or survey at a different season would result in the hedge being judged important).

The Y axis = the number of woody species. The X axis = the number of additional features.

Map / Notes:

The hedge does not qualify as ‘important’ under the Hedgerows Regulation 1997 based on the ‘desk study’ criteria.

There is only one additional feature but as the hedge has 6 woody species it qualifies as borderline ‘important’ under the ecological criteria set out with the Hedgerows Regulations 1997.

General Details:

Project Number: 1957

Date: 09/04/2013

Surveyor: Katie Critchley

Site Address: Bishopton Lane, Stratford-upon-Avon

Hedge Number: H7

Important: **Important**

Field Based Study:

Walk the hedge on one or (where access is available) both sides and for each hedge record the following information:

Section A:

- | | |
|---|--------|
| 1. Hedge Length | c.450m |
| 2. Number of standard trees (20cm diam. at 1.3m for single stemmed, 15cm diam. for multi stemmed) | 16 |
| 3. Is there a bank or wall which supports the hedgerow along at least one half of its length? | Yes |
| 4. Are there gaps in aggregate $\leq 10\%$ of the length of the hedgerow? | Yes |
| 5. Is there at least one standard tree per 50m of hedge? | No |
| 6. Is there a ditch along at least one half of the length of the hedgerow? | Yes |
| 7. Is a parallel hedge present within 15m? | No |
| 8. Are there three or more woodland species? (see Section C below) | No |
| 9. Are there connections scoring at least 4 points in total? | No |

Connections to be scored as follows:

- Connections with another hedgerow score 1 point = 3
- Connections with a pond or woodland in which the majority of trees is broad-leaved scores 2 point = 0
- A hedgerow is considered 'connected' not only if it meets it but also if it has a point within 10 metres of it and would meet it if the line of the hedgerow continued.

Total number of additional features (3-9 above) = 3

- | | |
|--|----|
| 10. Is the hedge either adjacent to a bridleway or footway, a road used as a public footpath or a byway open to traffic? | No |
|--|----|

Section B:

For all woody species, undertake woody species counts as follows:

- For Hedges up to 30m long, count total number of woody species and tick off the species in column one.
- For hedges over 30m but not exceeding 100m long, count the number of woody species in the central 30m stretch of each half of the hedge and tick species off in column 1.
- For hedges over 100m but not exceeding 200m long, do two woody species counts: one in the central 30m stretch of each half of the hedge, tick the species off in columns 1 and 2, and calculate the mean count (i.e. divide the total count by two).
- For hedges exceeding 200m in length, do 3 woody species counts: one in the central 30m stretch of each third of the hedge, tick the species off in columns 1,2 and 3 and calculate the mean count (i.e. divide the total count by three).
- In addition, ring all woody species recorded in the hedge for a total species list.

CSa Environmental Planning – Hedgerow survey sheet (Hedgerows Regulations 1997)

	1	2	3		1	2	3		1	2	3		1	2	3		1	2	3		1	2	3									
<i>Acer camp</i> Field maple	Y	Y	Y	<i>Cory Avell</i> Hazel				<i>Euon euro</i> Spindle tree				<i>Juni comm</i> Juniper				<i>Prun aviu</i> Wild Cherry				<i>Rham cath</i> Common buckthorn				<i>Sali spp</i>				<i>Tili plat</i> Large leaved lime				Y
<i>Alnu glut</i> Alder				<i>Coto Inte</i>				<i>Fagu sylv</i> Beech				<i>Ligu vulg</i> Privet	Y	Y	Y	<i>Prun padu</i> Bird Cherry				<i>Ribe alp</i> Alpine currant				<i>Samb nig</i> Elderberry			Y	<i>Ulex euro</i> Gorse				
<i>Betu pend</i> Silver Birch			Y	<i>Crat Laev</i> Midland Hawthorn				<i>Fran alnu</i> Alder buckthorn				<i>Malu sylv</i> Crab apple				<i>Prun spin</i> Sloe	Y	Y	Y	<i>Ribe spic</i> Nordic currant				<i>Sorb aucu</i> Mountain ash				<i>Ulex gall</i>				
<i>Betu pube</i> White birch				<i>Crat Mono</i> Hawthorn	Y	Y	Y	<i>Frax exce</i> Ash	Y	Y	Y	<i>Popu alba</i> White Poplar				<i>Pyru cord</i> Plymouth Pear				<i>Ribe uv-cr</i> Gooseberry				<i>Sorb torm</i> Wild service tree				<i>Ulex mino</i>				
<i>Buxe semp</i>				<i>Cyti Scop</i> Broom				<i>Hipp rham</i> Sea buckthorn				<i>P x can</i> Canadian Poplar				<i>Pyru pyra</i>			Y	<i>Rosa spp</i>	Y	Y	Y	<i>Sorb spp</i>				<i>Ulmu spp</i> Elm			Y	
<i>Carp betu</i> Horn-beam				<i>Daph Laur</i> Spurge Laurel				<i>Ilex aqui</i> Holly				<i>P nig bet</i>				<i>Quer petr</i> Sessile Oak			Y	<i>Rusc acul</i> Butcher's broom				<i>Taxu bacc</i> Yew				<i>Vibu lant</i>				
<i>Corn sang</i> Dog-wood				<i>Daph mezze</i> Mezereon				<i>Jugl regi</i> Walnut				<i>Popu trem</i>				<i>Quer robu</i> Pedunculate Oak				<i>Sali vimi</i> Osier				<i>Tili cord</i> Small leaved lime				<i>Vibu opul</i> Guelder Rose				

Woody species counts: Count 1 = 7 Count 2 = 8 Count 3 = 9 Mean count = 8

Section C

All woodland species within 1m of the outermost edges of the hedgerow (see list below):

<i>Adox mosc</i> Moschatel	<i>Brom ramo</i> Hairy broom	<i>Dryo f-mas</i> Male ern	<i>Geum urba</i> Wood avens	<i>Meli unif</i> Wood Melick	<i>Poly vulg</i> Milkwort	<i>Viol odor</i> Sweet violet
<i>Ajug rept</i> Bugle	<i>Camp trac</i> Nettle-leaved bell-flower	<i>Epip hell</i> Broad-leaved helleborine	<i>Hyac non-s</i> Bluebell	<i>Merc pere</i> Dog's mercury	<i>Pote eroc</i> Tormentil	<i>Viol reic</i> Early dog violet
<i>Alli ursi</i> Ramsons	<i>Camp lati</i> Great bell-flower	<i>Equi sylv</i> Wood horsetail	<i>Lami gale</i> Yellow archangel	<i>Mili effu</i> Wood millet	<i>Pote ster</i>	<i>Viol rivi</i> Common dog violet
<i>Anem nemo</i> Wood anemone	<i>Care sylv</i> Wood sedge	<i>Euph amyg</i> Wood spurge	<i>Lath squa</i> Toothwort	<i>Orch masc</i> Early purple orchid	<i>Prim elat</i> Oxlip	
Arum macu Lords-and-ladies	<i>Circ lute</i> Enchanter's nightshade	<i>Fest giga</i> Giant fescue	<i>Luzu pilo</i> Hairy woodrush	<i>Oxal acet</i> Wood sorrel	<i>Prim vulg</i> Primrose	
<i>Aspl scol</i> Hart's tongue	<i>Cono maju</i> Pig nut	<i>Frag vesc</i> Wild strawberry	<i>Luzu sylv</i> Great woodrush	<i>Pari quad</i> Herb Paris	<i>Ranu auri</i> Goldilocks buttercups	
<i>Athy fil-fem</i> Lady fern	<i>Dryo affi</i> Scaly male-fern	<i>Gali odor</i> Woodruff	<i>Lysi nemo</i> Yellow pimpernel	<i>Poa nemo</i> Wood meadow-grass	<i>Sani euro</i> Wood sanicle	
<i>Blec spic</i> Hard fern	<i>Dryo cart</i> Narrow buckler fern	<i>Gali saxa</i> Heath bedstraw	<i>Mela prat</i> Common cow-wheat	<i>Poly acul</i> Hardshield fern	<i>Tuec scor</i> Wood sage	
<i>Brac sylv</i> Wood false-broom	<i>Dryo dila</i> Broad buckler fern	<i>Gera robe</i> Herb robert	<i>Mela sylv</i> Small cow-wheat	<i>Poly seti</i> Soft shield fern	<i>Vero mont</i> Woodspeedwell	

Total Number of woodland species: 1

Desk Based Study:

Is the hedge known to support any of the following categories of species?

- Those listed in Part 1 of Schedule 1 (birds protected by special penalties) of the Wildlife and Countryside Act 1981
- Those listed in Schedule 5 (animals which are protected) of the Wildlife and Countryside Act 1981
- Those listed in schedule 8 (plants which are protected) of the Wildlife and Countryside Act 1981
- Categorised as a declining breeder (category 3) in 'Red Data Birds in Britain'
- Categorised as 'endangered', 'extinct', 'rare' or 'vulnerable' in one of the Red data books (see regulations for details)

If yes state which: No

Evaluation:

		Adjacent to bridleway, road used as a public path or a byway open to all traffic ?															
		No							Yes								
≥7					X												
6																	
5																	
4																	
3																	
2																	
1																	
		0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7
		Number of additional features							Number of additional features								

Table for identifying 'important' hedges not qualifying on the basis of the species listed in the 'desk based study' section above. Hedges falling within dark shaded and crossed boxes are important. Those falling within other shaded boxes would qualify as important if the number of additional features or woody species count were to increase by one. They are therefore considered to be borderline (in such cases there is a reasonable likelihood that a different surveyor or survey at a different season would result in the hedge being judged important).

The Y axis = the number of woody species. The X axis = the number of additional features.

Map / Notes:

The hedge does not qualify as 'important' under the Hedgerows Regulation 1997 based on the 'desk study' criteria.

However, as the hedge is situated next to a byway open to all traffic, has a mean count of 8 woody species and 3 additional features it qualifies as 'important' under the ecological criteria set out with the Hedgerows Regulations 1997.

General Details:

Project Number: 1957

Date: 09/04/2013

Surveyor: Katie Critchley

Site Address: Bishopton Lane, Stratford-upon-Avon

Hedge Number: H8

Important: **Important**

Field Based Study:

Walk the hedge on one or (where access is available) both sides and for each hedge record the following information:

Section A:

- | | |
|---|--------|
| 1. Hedge Length | c.500m |
| 2. Number of standard trees (20cm diam. at 1.3m for single stemmed, 15cm diam. for multi stemmed) | <30 |
| 3. Is there a bank or wall which supports the hedgerow along at least one half of its length? | No |
| 4. Are there gaps in aggregate \leq 10% of the length of the hedgerow? | Yes |
| 5. Is there at least one standard tree per 50m of hedge? | Yes |
| 6. Is there a ditch along at least one half of the length of the hedgerow? | Yes |
| 7. Is a parallel hedge present within 15m? | No |
| 8. Are there three or more woodland species? (see Section C below) | No |
| 9. Are there connections scoring at least 4 points in total? | No |

Connections to be scored as follows:

- Connections with another hedgerow score 1 point = 3
- Connections with a pond or woodland in which the majority of trees is broad-leaved scores 2 point = 0
- A hedgerow is considered 'connected' not only if it meets it but also if it has a point within 10 metres of it and would meet it if the line of the hedgerow continued.

Total number of additional features (3-9 above) = 3

- | | |
|--|----|
| 10. Is the hedge either adjacent to a bridleway or footway, a road used as a public footpath or a byway open to traffic? | No |
|--|----|

Section B:

For all woody species, undertake woody species counts as follows:

- For Hedges up to 30m long, count total number of woody species and tick off the species in column one.
- For hedges over 30m but not exceeding 100m long, count the number of woody species in the central 30m stretch of each half of the hedge and tick species off in column 1.
- For hedges over 100m but not exceeding 200m long, do two woody species counts: one in the central 30m stretch of each half of the hedge, tick the species off in columns 1 and 2, and calculate the mean count (i.e. divide the total count by two).
- For hedges exceeding 200m in length, do 3 woody species counts: one in the central 30m stretch of each third of the hedge, tick the species off in columns 1,2 and 3 and calculate the mean count (i.e. divide the total count by three).
- In addition, ring all woody species recorded in the hedge for a total species list.

CSa Environmental Planning – Hedgerow survey sheet (Hedgerows Regulations 1997)

	1	2	3		1	2	3		1	2	3		1	2	3		1	2	3		1	2	3								
<i>Acer camp</i> Field maple	Y	Y	Y	<i>Cory Avell</i> Hazel				<i>Euon euro</i> Spindle tree				<i>Juni comm</i> Juniper				<i>Prun aviu</i> Wild Cherry				<i>Rham cath</i> Common buckthorn				<i>Sali spp</i>				<i>Tili plat</i> Large leaved lime			
<i>Alnu glut</i> Alder	Y			<i>Coto Inte</i>				<i>Fagu sylv</i> Beech				<i>Ligu vulg</i> Privet	Y			<i>Prun padu</i> Bird Cherry				<i>Ribe alp</i> Alpine currant				<i>Samb nig</i> Elderberry				<i>Ulex euro</i> Gorse			
<i>Betu pend</i> Silver Birch			Y	<i>Crat Laev</i> Midland Hawthorn				<i>Fran alnu</i> Alder buckthorn				<i>Malu sylv</i> Crab apple				<i>Prun spin</i> Sloe	Y	Y	Y	<i>Ribe spic</i> Nordic currant				<i>Sorb aucu</i> Mountain ash				<i>Ulex gall</i>			
<i>Betu pube</i> White birch				<i>Crat Mono</i> Hawthorn	Y	Y	Y	<i>Frax exce</i> Ash	Y	Y	Y	<i>Popu alba</i> White Poplar				<i>Pynu cord</i> Plymouth Pear				<i>Ribe uv-cr</i> Gooseberry				<i>Sorb torm</i> Wild service tree				<i>Ulex mino</i>			
<i>Buxe semp</i>				<i>Cyti Scop</i> Broom				<i>Hipp rham</i> Sea buckthorn				<i>P x can</i> Canadian Poplar				<i>Pynu pyra</i>				<i>Rosa spp</i>	Y	Y	Y	<i>Sorb spp</i>	Y			<i>Ulmu spp</i> Elm	Y	Y	Y
<i>Carp betu</i> Horn-beam		Y		<i>Daph Laur</i> Spurge Laurel				<i>Ilex aqui</i> Holly				<i>P nig bet</i>				<i>Quer petr</i> Sessile Oak		Y	Y	<i>Rusc acul</i> Butcher's broom				<i>Taxu bacc</i> Yew				<i>Vibu lant</i>			
<i>Corn sang</i> Dog-wood				<i>Daph mezze</i> Mezereon				<i>Jugl regi</i> Walnut				<i>Popu trem</i>				<i>Quer robu</i> Pedunculate Oak				<i>Sali vimi</i> Osier				<i>Tili cord</i> Small leaved lime				<i>Vibu opul</i> Guelder Rose			

Woody species counts: Count 1 = 9 Count 2 = 8 Count 3 = 8 Mean count = 8.3

Section C

All woodland species within 1m of the outermost edges of the hedgerow (see list below):

<i>Adox mosc</i> Moschatel	<i>Brom ramo</i> Hairy broom	<i>Dryo f-mas</i> Male ern	<i>Geum urba</i> Wood avens	<i>Meli unif</i> Wood Melick	<i>Poly vulg</i> Milkwort	<i>Viol odor</i> Sweet violet
<i>Ajug rept</i> Bugle	<i>Camp trac</i> Nettle-leaved bell-flower	<i>Epip hell</i> Broad-leaved helleborine	<i>Hyac non-s</i> Bluebell	<i>Merc pere</i> Dog's mercury	<i>Pote eroc</i> Tormentil	<i>Viol reic</i> Early dog violet
<i>Alli ursi</i> Ramsons	<i>Camp lati</i> Great bell-flower	<i>Equi sylv</i> Wood horsetail	<i>Lami gale</i> Yellow archangel	<i>Mili effu</i> Wood millet	<i>Pote ster</i>	<i>Viol rivi</i> Common dog violet
<i>Anem nemo</i> Wood anemone	<i>Care sylv</i> Wood sedge	<i>Euph amyg</i> Wood spurge	<i>Lath squa</i> Toothwort	<i>Orch masc</i> Early purple orchid	<i>Prim elat</i> Oxlip	
<i>Arum macu</i> Lords-and-ladies	<i>Circ lute</i> Enchanter's nightshade	<i>Fest giga</i> Giant fescue	<i>Luzu pilo</i> Hairy woodrush	<i>Oxal acet</i> Wood sorrel	<i>Prim vulg</i> Primrose	
<i>Aspl scol</i> Hart's tongue	<i>Cono maju</i> Pig nut	<i>Frag vesc</i> Wild strawberry	<i>Luzu sylv</i> Great woodrush	<i>Pari quad</i> Herb Paris	<i>Ranu auri</i> Goldilocks buttercups	
<i>Athy fil-fem</i> Lady fern	<i>Dryo affi</i> Scaly male-fern	<i>Gali odor</i> Woodruff	<i>Lysi nemo</i> Yellow pimpernel	<i>Poa nemo</i> Wood meadow-grass	<i>Sani euro</i> Wood sanicle	
<i>Blec spic</i> Hard fern	<i>Dryo cart</i> Narrow buckler fern	<i>Gali saxa</i> Heath bedstraw	<i>Mela prat</i> Common cow-wheat	<i>Poly acul</i> Hardshield fern	<i>Tuec scor</i> Wood sage	
<i>Brac sylv</i> Wood false-broom	<i>Dryo dila</i> Broad buckler fern	<i>Gera robe</i> Herb robert	<i>Mela sylv</i> Small cow-wheat	<i>Poly seti</i> Soft shield fern	<i>Vero mont</i> Woodspeedwell	

Total Number of woodland species: 2

Desk Based Study:

Is the hedge known to support any of the following categories of species?

- Those listed in Part 1 of Schedule 1 (birds protected by special penalties) of the Wildlife and Countryside Act 1981
- Those listed in Schedule 5 (animals which are protected) of the Wildlife and Countryside Act 1981
- Those listed in schedule 8 (plants which are protected) of the Wildlife and Countryside Act 1981
- Categorised as a declining breeder (category 3) in 'Red Data Birds in Britain'
- Categorised as 'endangered', 'extinct', 'rare' or 'vulnerable' in one of the Red data books (see regulations for details)

If yes state which: No

Evaluation:

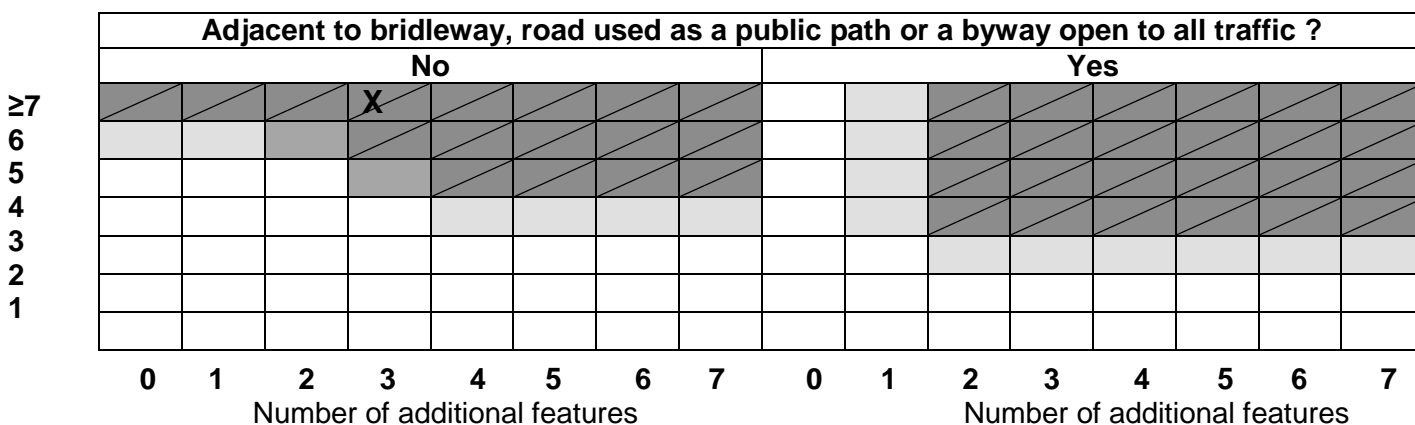


Table for identifying 'important' hedges not qualifying on the basis of the species listed in the 'desk based study' section above. Hedges falling within dark shaded and crossed boxes are important. Those falling within other shaded boxes would qualify as important if the number of additional features or woody species count were to increase by one. They are therefore considered to be borderline (in such cases there is a reasonable likelihood that a different surveyor or survey at a different season would result in the hedge being judged important).

The Y axis = the number of woody species. The X axis = the number of additional features.

Map / Notes:

The hedge does not qualify as 'important' under the Hedgerows Regulation 1997 based on the 'desk study' criteria.

However, as the hedge is situated next to a byway open to all traffic, has a mean count of 8.3 woody species and 3 additional features it qualifies as 'important' under the ecological criteria set out with the Hedgerows Regulations 1997.

General Details:

Project Number: 1957

Date: 09/04/2013

Surveyor: Katie Critchley

Site Address: Bishopton Lane, Stratford-upon-Avon

Hedge Number: H9

Important: **Important**

Field Based Study:

Walk the hedge on one or (where access is available) both sides and for each hedge record the following information:

Section A:

- | | |
|---|--------|
| 1. Hedge Length | c.175m |
| 2. Number of standard trees (20cm diam. at 1.3m for single stemmed, 15cm diam. for multi stemmed) | 3 |
| 3. Is there a bank or wall which supports the hedgerow along at least one half of its length? | Yes |
| 4. Are there gaps in aggregate $\leq 10\%$ of the length of the hedgerow? | No |
| 5. Is there at least one standard tree per 50m of hedge? | No |
| 6. Is there a ditch along at least one half of the length of the hedgerow? | Yes |
| 7. Is a parallel hedge present within 15m? | No |
| 8. Are there three or more woodland species? (see Section C below) | Yes |
| 9. Are there connections scoring at least 4 points in total? | No |

Connections to be scored as follows:

- Connections with another hedgerow score 1 point = 2
- Connections with a pond or woodland in which the majority of trees is broad-leaved scores 2 point = 0
- A hedgerow is considered 'connected' not only if it meets it but also if it has a point within 10 metres of it and would meet it if the line of the hedgerow continued.

Total number of additional features (3-9 above) = 3

- | | |
|--|----|
| 10. Is the hedge either adjacent to a bridleway or footway, a road used as a public footpath or a byway open to traffic? | No |
|--|----|

Section B:

For all woody species, undertake woody species counts as follows:

- For Hedges up to 30m long, count total number of woody species and tick off the species in column one.
- For hedges over 30m but not exceeding 100m long, count the number of woody species in the central 30m stretch of each half of the hedge and tick species off in column 1.
- For hedges over 100m but not exceeding 200m long, do two woody species counts: one in the central 30m stretch of each half of the hedge, tick the species off in columns 1 and 2, and calculate the mean count (i.e. divide the total count by two).
- For hedges exceeding 200m in length, do 3 woody species counts: one in the central 30m stretch of each third of the hedge, tick the species off in columns 1,2 and 3 and calculate the mean count (i.e. divide the total count by three).
- In addition, ring all woody species recorded in the hedge for a total species list.

CSa Environmental Planning – Hedgerow survey sheet (Hedgerows Regulations 1997)

	1	2	3		1	2	3		1	2	3		1	2	3		1	2	3		1	2	3								
<i>Acer camp</i> Field maple	Y	Y		<i>Cory Avell</i> Hazel				<i>Euon euro</i> Spindle tree				<i>Juni comm</i> Juniper				<i>Prun aviu</i> Wild Cherry				<i>Rham cath</i> Common buckthorn				<i>Sali spp</i>				<i>Tili plat</i> Large leaved lime			
<i>Alnu glut</i> Alder				<i>Coto Inte</i>				<i>Fagu sylv</i> Beech				<i>Ligu vulg</i> Privet				<i>Prun padu</i> Bird Cherry				<i>Ribe alp</i> Alpine currant				<i>Samb nig</i> Elderberry	Y			<i>Ulex euro</i> Gorse			
<i>Betu pend</i> Silver Birch				<i>Crat Laev</i> Midland Hawthorn				<i>Fran alnu</i> Alder buckthorn				<i>Malu sylv</i> Crab apple				<i>Prun spin</i> Sloe	Y	Y		<i>Ribe spic</i> Nordic currant				<i>Sorb aucu</i> Mountain ash				<i>Ulex gall</i>			
<i>Betu pube</i> White birch				<i>Crat Mono</i> Hawthorn	Y	Y		<i>Frax exce</i> Ash	Y	Y		<i>Popu alba</i> White Poplar				<i>Pyrus cord</i> Plymouth Pear				<i>Ribe uv-cr</i> Gooseberry				<i>Sorb torm</i> Wild service tree				<i>Ulex mino</i>			
<i>Buxe semp</i>				<i>Cyti Scop</i> Broom				<i>Hipp rham</i> Sea buckthorn				<i>P x can</i> Canadian Poplar				<i>Pyrus pyra</i>				<i>Rosa spp</i>	Y	Y		<i>Sorb spp</i>				<i>Ulmus spp</i> Elm			Y
<i>Carp betu</i> Horn-beam				<i>Daph Laur</i> Spurge Laurel				<i>Ilex aqui</i> Holly				<i>P nig bet</i>				<i>Quer petr</i> Sessile Oak	Y	Y		<i>Rusc acul</i> Butcher's broom				<i>Taxu bacc</i> Yew				<i>Vibu lant</i>			
<i>Corn sang</i> Dog-wood				<i>Daph mezze</i> Mezereon				<i>Jugl regi</i> Walnut				<i>Popu trem</i>				<i>Quer robu</i> Pedunculate Oak				<i>Sali vimi</i> Osier				<i>Tili cord</i> Small leaved lime				<i>Vibu opul</i> Guelder Rose			

Woody species counts: Count 1 = 7 Count 2 = 7 Count 3 = N/A Mean count = 7

Section C

All woodland species within 1m of the outermost edges of the hedgerow (see list below):

<i>Adox mosc</i> Moschatel	<i>Brom ramo</i> Hairy broom	<i>Dryas f-mas</i> Male ern	<i>Geum urba</i> Wood avens	<i>Meli unif</i> Wood Melick	<i>Poly vulg</i> Milkwort	<i>Viol odor</i> Sweet violet
<i>Ajug rept</i> Bugle	<i>Camp trac</i> Nettle-leaved bell-flower	<i>Epip hell</i> Broad-leaved helleborine	<i>Hyac non-s</i> Bluebell	<i>Merc pere</i> Dog's mercury	<i>Pote errec</i> Tormentil	<i>Viol reic</i> Early dog violet
<i>Alli ursi</i> Ramsons	<i>Camp lati</i> Great bell-flower	<i>Equi sylv</i> Wood horsetail	<i>Lami gale</i> Yellow archangel	<i>Mili effu</i> Wood millet	<i>Pote ster</i>	<i>Viol rivi</i> Common dog violet
<i>Anem nemo</i> Wood anemone	<i>Care sylv</i> Wood sedge	<i>Euph amyg</i> Wood spurge	<i>Lath squa</i> Toothwort	<i>Orch masc</i> Early purple orchid	<i>Prim elat</i> Oxlip	
<i>Arum macu</i> Lords-and-ladies	<i>Circ lute</i> Enchanter's nightshade	<i>Fest giga</i> Giant fescue	<i>Luzu pilo</i> Hairy woodrush	<i>Oxal acet</i> Wood sorrel	<i>Prim vulg</i> Primrose	
<i>Aspl scol</i> Hart's tongue	<i>Cono maju</i> Pig nut	<i>Frag vesc</i> Wild strawberry	<i>Luzu sylv</i> Great woodrush	<i>Pari quad</i> Herb Paris	<i>Ranu auri</i> Goldilocks buttercups	
<i>Athy fil-fem</i> Lady fern	<i>Dryas affi</i> Scaly male-fern	<i>Gali odor</i> Woodruff	<i>Lysi nemo</i> Yellow pimpernel	<i>Poa nemo</i> Wood meadow-grass	<i>Sani euro</i> Wood sanicle	
<i>Blec spic</i> Hard fern	<i>Dryas cart</i> Narrow buckler fern	<i>Gali saxa</i> Heath bedstraw	<i>Mela prat</i> Common cow-wheat	<i>Poly acul</i> Hardshield fern	<i>Tuec scor</i> Wood sage	
<i>Brac sylv</i> Wood false-broom	<i>Dryas dila</i> Broad buckler fern	<i>Gera robe</i> Herb robert	<i>Mela sylv</i> Small cow-wheat	<i>Poly seti</i> Soft shield fern	<i>Vero mont</i> Woodspeedwell	

Total Number of woodland species: 3

Desk Based Study:

Is the hedge known to support any of the following categories of species?

- Those listed in Part 1 of Schedule 1 (birds protected by special penalties) of the Wildlife and Countryside Act 1981
- Those listed in Schedule 5 (animals which are protected) of the Wildlife and Countryside Act 1981
- Those listed in schedule 8 (plants which are protected) of the Wildlife and Countryside Act 1981
- Categorised as a declining breeder (category 3) in ‘Red Data Birds in Britain’
- Categorised as ‘endangered’, ‘extinct’, ‘rare’ or ‘vulnerable’ in one of the Red data books (see regulations for details)

If yes state which: No

Evaluation:

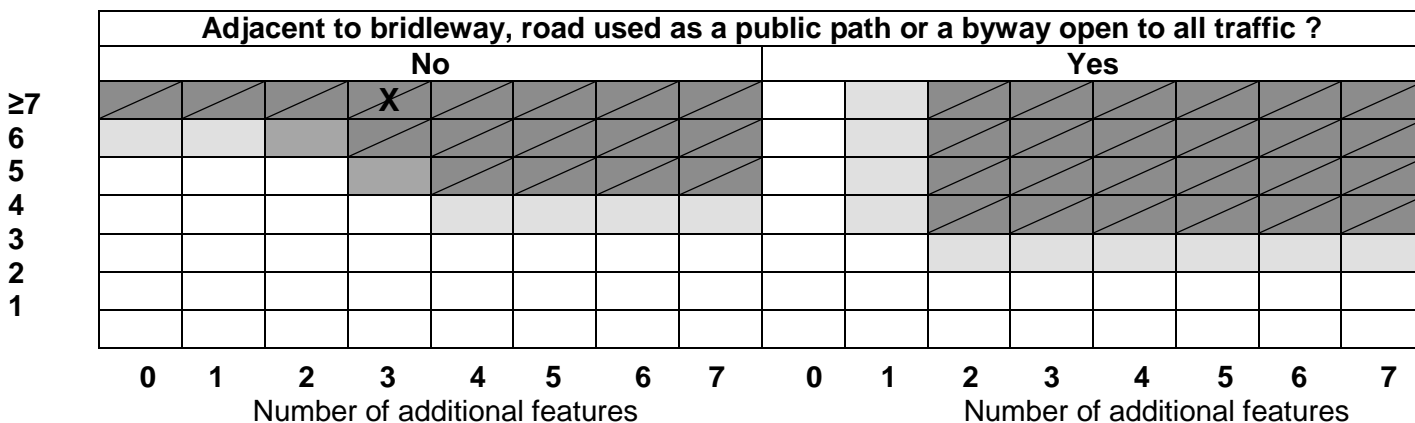


Table for identifying ‘important’ hedges not qualifying on the basis of the species listed in the ‘desk based study’ section above. Hedges falling within dark shaded and crossed boxes are important. Those falling within other shaded boxes would qualify as important if the number of additional features or woody species count were to increase by one. They are therefore considered to be borderline (in such cases there is a reasonable likelihood that a different surveyor or survey at a different season would result in the hedge being judged important).

The Y axis = the number of woody species. The X axis = the number of additional features.

Map / Notes:

The hedge does not qualify as ‘important’ under the Hedgerows Regulation 1997 based on the ‘desk study’ criteria.

However, as the hedge is situated next to a byway open to all traffic, has a mean count of 7 woody species and 3 additional features it qualifies as ‘important’ under the ecological criteria set out with the Hedgerows Regulations 1997.

General Details:

Project Number: 1957

Date: 09/04/2013

Surveyor: Katie Critchley

Site Address: Bishopton Lane, Stratford-upon-Avon

Hedge Number: H9a

Important: **Borderline**

Field Based Study:

Walk the hedge on one or (where access is available) both sides and for each hedge record the following information:

Section A:

- | | |
|---|-------|
| 1. Hedge Length | c.75m |
| 2. Number of standard trees (20cm diam. at 1.3m for single stemmed, 15cm diam. for multi stemmed) | 3 |
| 3. Is there a bank or wall which supports the hedgerow along at least one half of its length? | Yes |
| 4. Are there gaps in aggregate $\leq 10\%$ of the length of the hedgerow? | Yes |
| 5. Is there at least one standard tree per 50m of hedge? | No |
| 6. Is there a ditch along at least one half of the length of the hedgerow? | No |
| 7. Is a parallel hedge present within 15m? | No |
| 8. Are there three or more woodland species? (see Section C below) | No |
| 9. Are there connections scoring at least 4 points in total? | No |

Connections to be scored as follows:

- Connections with another hedgerow score 1 point = 2
- Connections with a pond or woodland in which the majority of trees is broad-leaved scores 2 point = 0
- A hedgerow is considered 'connected' not only if it meets it but also if it has a point within 10 metres of it and would meet it if the line of the hedgerow continued.

Total number of additional features (3-9 above) = 2

- | | |
|--|----|
| 10. Is the hedge either adjacent to a bridleway or footway, a road used as a public footpath or a byway open to traffic? | No |
|--|----|

Section B:

For all woody species, undertake woody species counts as follows:

- For Hedges up to 30m long, count total number of woody species and tick off the species in column one.
- For hedges over 30m but not exceeding 100m long, count the number of woody species in the central 30m stretch of each half of the hedge and tick species off in column 1.
- For hedges over 100m but not exceeding 200m long, do two woody species counts: one in the central 30m stretch of each half of the hedge, tick the species off in columns 1 and 2, and calculate the mean count (i.e. divide the total count by two).
- For hedges exceeding 200m in length, do 3 woody species counts: one in the central 30m stretch of each third of the hedge, tick the species off in columns 1,2 and 3 and calculate the mean count (i.e. divide the total count by three).
- In addition, ring all woody species recorded in the hedge for a total species list.

CSa Environmental Planning – Hedgerow survey sheet (Hedgerows Regulations 1997)

	1	2	3		1	2	3		1	2	3		1	2	3		1	2	3		1	2	3								
<i>Acer camp</i> Field maple	Y			<i>Cory Avell</i> Hazel				<i>Euon euro</i> Spindle tree				<i>Juni comm</i> Juniper				<i>Prun aviu</i> Wild Cherry				<i>Rham cath</i> Common buckthorn				<i>Sali spp</i>				<i>Tili plat</i> Large leaved lime			
<i>Alnu glut</i> Alder				<i>Coto Inte</i>				<i>Fagu sylv</i> Beech				<i>Ligu vulg</i> Privet				<i>Prun padu</i> Bird Cherry				<i>Ribe alp</i> Alpine currant				<i>Samb nig</i> Elderberry				<i>Ulex euro</i> Gorse			
<i>Betu pend</i> Silver Birch				<i>Crat Laev</i> Midland Hawthorn				<i>Fran alnu</i> Alder buckthorn				<i>Malu sylv</i> Crab apple				<i>Prun spin</i> Sloe	Y			<i>Ribe spic</i> Nordic currant				<i>Sorb aucu</i> Mountain ash				<i>Ulex gall</i>			
<i>Betu pube</i> White birch				<i>Crat Mono</i> Hawthorn	Y			<i>Frax exce</i> Ash	Y			<i>Popu alba</i> White Poplar				<i>Pynu cord</i> Plymouth Pear				<i>Ribe uv-cr</i> Gooseberry				<i>Sorb torm</i> Wild service tree				<i>Ulex mino</i>			
<i>Buxe semp</i>				<i>Cyti Scop</i> Broom				<i>Hipp rham</i> Sea buckthorn				<i>P x can</i> Canadian Poplar				<i>Pynu pyra</i>				<i>Rosa spp</i>	Y			<i>Sorb spp</i>				<i>Ulm spp</i> Elm			
<i>Carp betu</i> Hornbeam				<i>Daph Laur</i> Spurge Laurel				<i>Ilex aqui</i> Holly				<i>P nig bet</i>				<i>Quer petr</i> Sessile Oak	Y			<i>Rusc acul</i> Butcher's broom				<i>Taxu bacc</i> Yew				<i>Vibu lant</i>			
<i>Corn sang</i> Dog-wood				<i>Daph mezze</i> Mezereon				<i>Jugl regi</i> Walnut				<i>Popu trem</i>				<i>Quer robu</i> Pedunculate Oak				<i>Sali vimi</i> Osier				<i>Tili cord</i> Small leaved lime				<i>Vibu opul</i> Guelder Rose			

Woody species counts: Count 1 = 6 Count 2 = N/A Count 3 = N/A Mean count = N/A

Section C

All woodland species within 1m of the outermost edges of the hedgerow (see list below):

<i>Adox mosc</i> Moschatel	<i>Brom ramo</i> Hairy broom	<i>Dryo f-mas</i> Male ern	<i>Geum urba</i> Wood avens	<i>Meli unif</i> Wood Melick	<i>Poly vulg</i> Milkwort	<i>Viol odor</i> Sweet violet
<i>Ajug rept</i> Bugle	<i>Camp trac</i> Nettle-leaved bell-flower	<i>Epip hell</i> Broad-leaved helleborine	<i>Hyac non-s</i> Bluebell	<i>Merc pere</i> Dog's mercury	<i>Pote errec</i> Tormentil	<i>Viol reic</i> Early dog violet
<i>Alli ursi</i> Ramsons	<i>Camp lati</i> Great bell-flower	<i>Equi sylv</i> Wood horsetail	<i>Lami gale</i> Yellow archangel	<i>Mili effu</i> Wood millet	<i>Pote ster</i>	<i>Viol rivi</i> Common dog violet
<i>Anem nemo</i> Wood anemone	<i>Care sylv</i> Wood sedge	<i>Euph amyg</i> Wood spurge	<i>Lath squa</i> Toothwort	<i>Orch masc</i> Early purple orchid	<i>Prim elat</i> Oxlip	
<i>Arum macu</i> Lords-and-ladies	<i>Circ lute</i> Enchanter's nightshade	<i>Fest giga</i> Giant fescue	<i>Luzu pilo</i> Hairy woodrush	<i>Oxal acet</i> Wood sorrel	<i>Prim vulg</i> Primrose	
<i>Aspl scol</i> Hart's tongue	<i>Cono maju</i> Pig nut	<i>Frag vesc</i> Wild strawberry	<i>Luzu sylv</i> Great woodrush	<i>Pari quad</i> Herb Paris	<i>Ranu auri</i> Goldilocks buttercups	
<i>Athy fil-fem</i> Lady fern	<i>Dryo affi</i> Scaly male-fern	<i>Gali odor</i> Woodruff	<i>Lysi nemo</i> Yellow pimpernel	<i>Poa nemo</i> Wood meadow-grass	<i>Sani euro</i> Wood sanicle	
<i>Blec spic</i> Hard fern	<i>Dryo cart</i> Narrow buckler fern	<i>Gali saxa</i> Heath bedstraw	<i>Mela prat</i> Common cow-wheat	<i>Poly acul</i> Hardshield fern	<i>Tuec scor</i> Wood sage	
<i>Brac sylv</i> Wood false-broom	<i>Dryo dila</i> Broad buckler fern	<i>Gera robe</i> Herb robert	<i>Mela sylv</i> Small cow-wheat	<i>Poly seti</i> Soft shield fern	<i>Vero mont</i> Woodspeedwell	

Total Number of woodland species: 0

Desk Based Study:

Is the hedge known to support any of the following categories of species?

- Those listed in Part 1 of Schedule 1 (birds protected by special penalties) of the Wildlife and Countryside Act 1981
- Those listed in Schedule 5 (animals which are protected) of the Wildlife and Countryside Act 1981
- Those listed in schedule 8 (plants which are protected) of the Wildlife and Countryside Act 1981
- Categorised as a declining breeder (category 3) in ‘Red Data Birds in Britain’
- Categorised as ‘endangered’, ‘extinct’, ‘rare’ or ‘vulnerable’ in one of the Red data books (see regulations for details)

If yes state which: No

Evaluation:

		Adjacent to bridleway, road used as a public path or a byway open to all traffic ?															
		No							Yes								
≥7																	
6			X														
5																	
4																	
3																	
2																	
1																	
		0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7
		Number of additional features							Number of additional features								

Table for identifying ‘important’ hedges not qualifying on the basis of the species listed in the ‘desk based study’ section above. Hedges falling within dark shaded and crossed boxes are important. Those falling within other shaded boxes would qualify as important if the number of additional features or woody species count were to increase by one. They are therefore considered to be borderline (in such cases there is a reasonable likelihood that a different surveyor or survey at a different season would result in the hedge being judged important).

The Y axis = the number of woody species. The X axis = the number of additional features.

Map / Notes:

The hedge does not qualify as ‘important’ under the Hedgerows Regulation 1997 based on the ‘desk study’ criteria.

There are only 2 additional features but as there are 6 woody species present, the hedge qualifies as borderline ‘important’ under the ecological criteria set out with the Hedgerows Regulations 1997.

General Details:

Project Number: 1957

Date: 09/04/2013

Surveyor: Katie Critchley

Site Address: Bishopton Lane, Stratford-upon-Avon

Hedge Number: H10

Important: **Borderline**

Field Based Study:

Walk the hedge on one or (where access is available) both sides and for each hedge record the following information:

Section A:

- | | |
|---|----------|
| 1. Hedge Length | c.200m |
| 2. Number of standard trees (20cm diam. at 1.3m for single stemmed, 15cm diam. for multi stemmed) | 6 |
| 3. Is there a bank or wall which supports the hedgerow along at least one half of its length? | No |
| 4. Are there gaps in aggregate $\leq 10\%$ of the length of the hedgerow? | No |
| 5. Is there at least one standard tree per 50m of hedge? | Yes |
| 6. Is there a ditch along at least one half of the length of the hedgerow? | No |
| 7. Is a parallel hedge present within 15m? | No |
| 8. Are there three or more woodland species? (see Section C below) | No |
| 9. Are there connections scoring at least 4 points in total? | Yes |
| Connections to be scored as follows: | |
| <ul style="list-style-type: none">• Connections with another hedgerow score 1 point = 2• Connections with a pond or woodland in which the majority of trees is broad-leaved scores 2 point = 2• A hedgerow is considered 'connected' not only if it meets it but also if it has a point within 10 metres of it and would meet it if the line of the hedgerow continued. | |
| Total number of additional features (3-9 above) = | 2 |
| 10. Is the hedge either adjacent to a bridleway or footway, a road used as a public footpath or a byway open to traffic? | No |

Section B:

For all woody species, undertake woody species counts as follows:

- For Hedges up to 30m long, count total number of woody species and tick off the species in column one.
- For hedges over 30m but not exceeding 100m long, count the number of woody species in the central 30m stretch of each half of the hedge and tick species off in column 1.
- For hedges over 100m but not exceeding 200m long, do two woody species counts: one in the central 30m stretch of each half of the hedge, tick the species off in columns 1 and 2, and calculate the mean count (i.e. divide the total count by two).
- For hedges exceeding 200m in length, do 3 woody species counts: one in the central 30m stretch of each third of the hedge, tick the species off in columns 1,2 and 3 and calculate the mean count (i.e. divide the total count by three).
- In addition, ring all woody species recorded in the hedge for a total species list.

CSa Environmental Planning – Hedgerow survey sheet (Hedgerows Regulations 1997)

	1	2	3		1	2	3		1	2	3		1	2	3		1	2	3		1	2	3								
<i>Acer camp</i> Field maple	Y	Y		<i>Cory Avell</i> Hazel				<i>Euon euro</i> Spindle tree				<i>Juni comm</i> Juniper				<i>Prun aviu</i> Wild Cherry				<i>Rham cath</i> Common buckthorn				<i>Sali spp</i>				<i>Tili plat</i> Large leaved lime			
<i>Alnu glut</i> Alder				<i>Coto Inte</i>				<i>Fagu sylv</i> Beech				<i>Ligu vulg</i> Privet				<i>Prun padu</i> Bird Cherry				<i>Ribe alp</i> Alpine currant				<i>Samb nig</i> Elderberry	Y	Y		<i>Ulex euro</i> Gorse			
<i>Betu pend</i> Silver Birch				<i>Crat Laev</i> Midland Hawthorn				<i>Fran alnu</i> Alder buckthorn				<i>Malu sylv</i> Crab apple				<i>Prun spin</i> Sloe	Y	Y		<i>Ribe spic</i> Nordic currant				<i>Sorb aucu</i> Mountain ash				<i>Ulex gall</i>			
<i>Betu pube</i> White birch				<i>Crat Mono</i> Hawthorn	Y	Y		<i>Frax exce</i> Ash		Y		<i>Popu alba</i> White Poplar				<i>Pyrus cord</i> Plymouth Pear				<i>Ribe uv-cr</i> Gooseberry				<i>Sorb torm</i> Wild service tree				<i>Ulex mino</i>			
<i>Buxe semp</i>				<i>Cyti Scop</i> Broom				<i>Hipp rham</i> Sea buckthorn				<i>P x can</i> Canadian Poplar				<i>Pyrus pyra</i>				<i>Rosa spp</i>	Y	Y		<i>Sorb spp</i>				<i>Ulm spp</i> Elm			
<i>Carp betu</i> Horn-beam				<i>Daph Laur</i> Spurge Laurel				<i>Ilex aqui</i> Holly				<i>P nig bet</i>				<i>Quer petr</i> Sessile Oak				<i>Rusc acul</i> Butcher's broom				<i>Taxu bacc</i> Yew				<i>Vibu lant</i>			
<i>Corn sang</i> Dog-wood				<i>Daph mezze</i> Mezereon				<i>Jugl regi</i> Walnut				<i>Popu trem</i>				<i>Quer robu</i> Pedunculate Oak				<i>Sali vimi</i> Osier				<i>Tili cord</i> Small leaved lime				<i>Vibu opul</i> Guelder Rose			

Woody species counts: Count 1 = 5 Count 2 = 6 Count 3 = N/A Mean count = 5.5

Section C

All woodland species within 1m of the outermost edges of the hedgerow (see list below):

<i>Adox mosc</i> Moschatel	<i>Brom ramo</i> Hairy broom	<i>Dryo f-mas</i> Male ern	<i>Geum urba</i> Wood avens	<i>Meli unif</i> Wood Melick	<i>Poly vulg</i> Milkwort	<i>Viol odor</i> Sweet violet
<i>Ajug rept</i> Bugle	<i>Camp trac</i> Nettle-leaved bell-flower	<i>Epip hell</i> Broad-leaved helleborine	<i>Hyac non-s</i> Bluebell	<i>Merc pere</i> Dog's mercury	<i>Pote erec</i> Tormentil	<i>Viol reic</i> Early dog violet
<i>Alli ursi</i> Ramsons	<i>Camp lati</i> Great bell-flower	<i>Equi sylv</i> Wood horsetail	<i>Lami gale</i> Yellow archangel	<i>Mili effu</i> Wood millet	<i>Pote ster</i>	<i>Viol rivi</i> Common dog violet
<i>Anem nemo</i> Wood anemone	<i>Care sylv</i> Wood sedge	<i>Euph amyg</i> Wood spurge	<i>Lath squa</i> Toothwort	<i>Orch masc</i> Early purple orchid	<i>Prim elat</i> Oxlip	
<i>Arum macu</i> Lords-and-ladies	<i>Circ lute</i> Enchanter's nightshade	<i>Fest giga</i> Giant fescue	<i>Luzu pilo</i> Hairy woodrush	<i>Oxal acet</i> Wood sorrel	<i>Prim vulg</i> Primrose	
<i>Aspl scol</i> Hart's tongue	<i>Cono maju</i> Pig nut	<i>Frag vesc</i> Wild strawberry	<i>Luzu sylv</i> Great woodrush	<i>Pari quad</i> Herb Paris	<i>Ranu auri</i> Goldilocks buttercups	
<i>Athy fil-fem</i> Lady fern	<i>Dryo affi</i> Scaly male-fern	<i>Gali odor</i> Woodruff	<i>Lysi nemo</i> Yellow pimpernel	<i>Poa nemo</i> Wood meadow-grass	<i>Sani euro</i> Wood sanicle	
<i>Blec spic</i> Hard fern	<i>Dryo cart</i> Narrow buckler fern	<i>Gali saxa</i> Heath bedstraw	<i>Mela prat</i> Common cow-wheat	<i>Poly acul</i> Hardshield fern	<i>Tuec scor</i> Wood sage	
<i>Brac sylv</i> Wood false-broom	<i>Dryo dila</i> Broad buckler fern	<i>Gera robe</i> Herb robert	<i>Mela sylv</i> Small cow-wheat	<i>Poly seti</i> Soft shield fern	<i>Vero mont</i> Woodspeedwell	

Total Number of woodland species: 3

Desk Based Study:

Is the hedge known to support any of the following categories of species?

- Those listed in Part 1 of Schedule 1 (birds protected by special penalties) of the Wildlife and Countryside Act 1981
- Those listed in Schedule 5 (animals which are protected) of the Wildlife and Countryside Act 1981
- Those listed in schedule 8 (plants which are protected) of the Wildlife and Countryside Act 1981
- Categorised as a declining breeder (category 3) in 'Red Data Birds in Britain'
- Categorised as 'endangered', 'extinct', 'rare' or 'vulnerable' in one of the Red data books (see regulations for details)

If yes state which: No

Evaluation:

		Adjacent to bridleway, road used as a public path or a byway open to all traffic ?															
		No							Yes								
≥7																	
6				X													
5																	
4																	
3																	
2																	
1																	
		0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7
		Number of additional features							Number of additional features								

Table for identifying 'important' hedges not qualifying on the basis of the species listed in the 'desk based study' section above. Hedges falling within dark shaded and crossed boxes are important. Those falling within other shaded boxes would qualify as important if the number of additional features or woody species count were to increase by one. They are therefore considered to be borderline (in such cases there is a reasonable likelihood that a different surveyor or survey at a different season would result in the hedge being judged important).

The Y axis = the number of woody species. The X axis = the number of additional features.

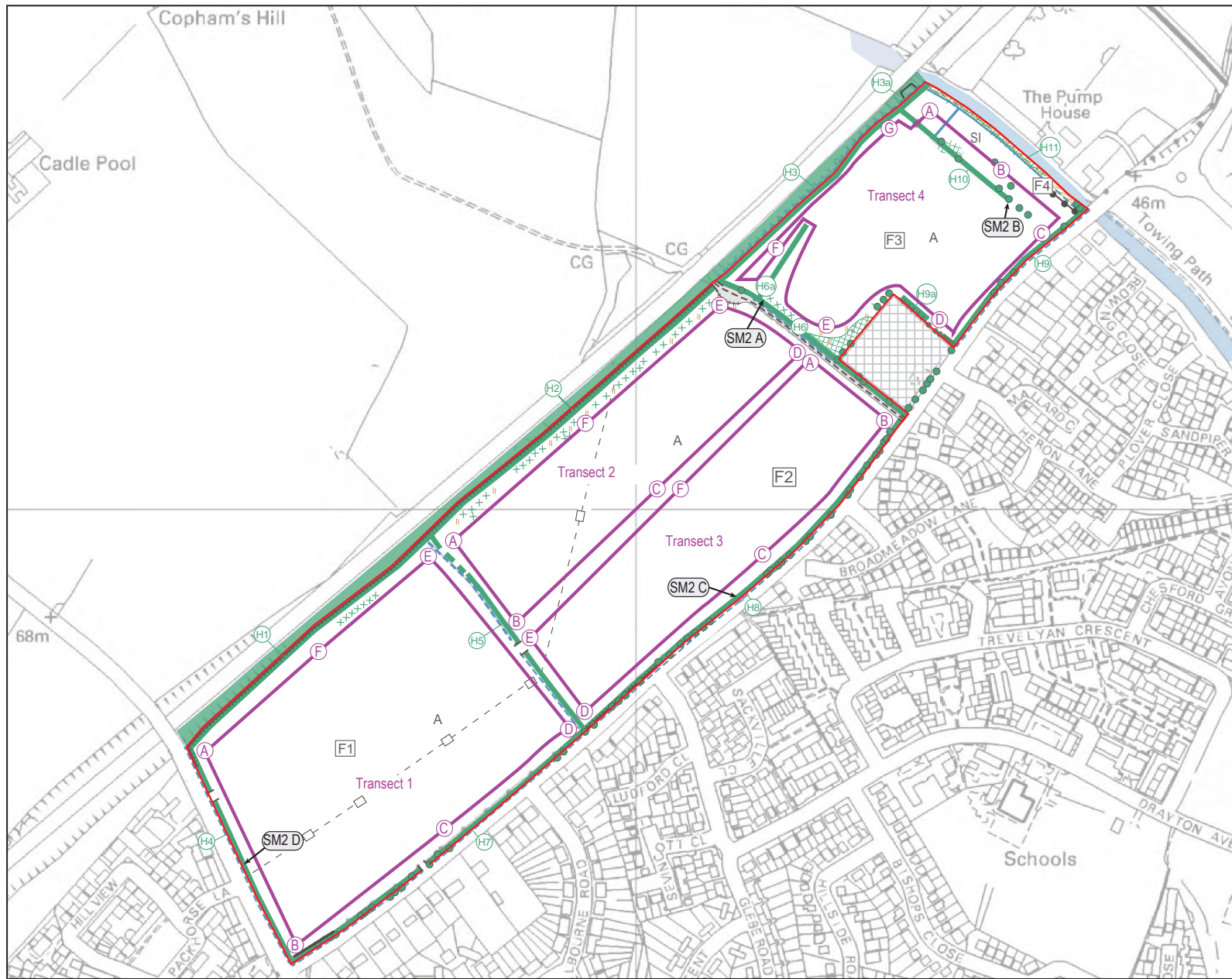
Map / Notes:

The hedge does not qualify as 'important' under the Hedgerows Regulation 1997 based on the 'desk study' criteria.

However, as the hedge has a mean count of 5.5 woody species and 3 additional features it qualifies as borderline 'important' under the ecological criteria set out with the Hedgerows Regulations 1997.

Appendix C

Bat Activity Survey Plan 2013
CSa/1957/107



Legend	
	Site boundary
	Transect route and stop-point
	Location of static recording device (SM2)
	Tree with Category 1*/1 bat roosting potential



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 e pershore@csaenvironmental.co.uk

Project	Land at Bishopton Lane, Stratford-on-Avon
Title	Bat Survey Plan 2013
Client	Miller Strategic Land & Taylor Wimpey UK

Date	November 2013
Scale	Not to scale
Drawn	KK
Checked	KC

Drawing Number	CSa/1957/107
Revision	-

Appendix D

Full Ground-based Tree Assessment Results

Project No.	1957	Project Name	Bishopton Lane, Stratford-upon-Avon
Date	10/09/2012 (T1-16a) 09/04/2013 (T17-74)	Surveyor	Katie Critchley & Kate Kibble

Category	Description
Roost	A known or confirmed tree roost present.
Category 1*	Tree with multiple, highly suitable features capable of supporting larger roosts
Category 1	Tree with definite bat potential, supporting fewer suitable features than category 1* trees or with potential for use by single bats
Category 2	Trees with no obvious potential, although the tree is of a size and age that features which may not be visit able from ground level are present; or tree supports features that may have limited potential to support bats
Category 3	Trees with no potential to support bats

Tree ID No.	Species	D.B.H. (m)	Rot Hollows	Cracks / Splits	WP Holes*	Loose Bark	Ivy Cover	Description of features (including aspect of feature)	Bat Roost Potential
T1	Ash	0.65	-	-	-	+	-	Mature, healthy ash. No visible features.	2
T2	Oak	0.55	-	-	-	-	-	Mature/over-mature. Epicormic growth. No visible features but could be obscured. Some dead wood at ends of branches.	2
T3	Wild pear	0.59	+	+	-	+	+	Over-mature. Ivy dense to 5m. No obvious features.	2
T4	Ash	0.4	+	+	+	+	+	Mature. Some ivy up to 5m and dense in places. Occasional feature- limited potential.	2
T5	Ash	0.4	+		+		+	Small amount ivy on lower trunk. Negligible potential but a few features. Mature.	2
T6	Ash	0.7	-	-	-	-	+	Mature. Ivy to 3m on main trunk. No visible features. Negligible potential.	2
T7	Ash	0.32	-	-	-	-	-	Immature. No features. Negligible potential.	3
T8	Field maple	0.26	-	-	-	-	-	Immature. No visible features. Negligible potential.	3
T9	Silver birch	0.22	-	-	-	-	-	Young. Negligible potential-no features.	3
T10	Ash	0.38	-	-	-	-	-	Semi-mature/mature. No visible features. Broken branch on road-side but no potential.	3
T11	Lime	0.17	-	-	-	-	-	Young. No features.	3
T12	Ash	0.63	-	-	-	-	-	Mature, healthy. Old hedgerow tree. No visible features.	2
T13	Lime	0.17	-	-	-	-	-	Negligible potential. No feature. Young tree on verge.	3
T14	Silver birch	0.31	-	-	-	-	-	Negligible potential. No feature. Young tree on verge.	3
T15	Silver birch	0.27	-	-	-	-	-	Negligible potential. No feature. Young tree on verge.	3
T16	Silver birch	0.19	-	-	-	-	-	Negligible potential. No features. Young tree on verge.	3
T16a	Ash	Not on tree survey	-	-	-	-	-	Young tree, just in hedgerow.	3
T17	Silver Birch	0.2	-	-	-	-	-	Negligible potential. No features. Young tree on verge.	3
T18	Ash	0.36	-	-	-	-	-	Multi-stem. Negligible potential. No features. Young tree on verge.	3
T19	Ash	0.47	-	-	-	-	-	Multi-stem. Negligible potential. No features. Young tree on verge.	3
T20	Ash	0.42	-	-	-	-	-	Twin-stem at c.1.5m. Some pruning scars but no potential features.	3

T21	Ash	0.35	-	-	-	-	-	Well maintained tree. No features.	3
T22	Oak	1	-	-	-	-	-	Over-mature, some dead wood. No clear features but has potential to support hidden features usable by small numbers of bats.	2
T23	Silver birch	0.27	-	-	-	-	-	Young tree. Has some pruning scars/wounds but these exhibit no roosting potential.	3
T24	Silver birch	0.28	-	-	-	-	-	Young tree. Has some pruning scars/wounds but these exhibit no roosting potential.	3
T25	Ash	NA	NA	NA	NA	NA	NA	Coppiced to stump level.	NA
T26	Silver birch	0.22	-	-	-	-	-	Young tree. Has some pruning scars/wounds but these exhibit no roosting potential.	3
T27	Silver birch	0.24	-	-	-	-	-	Young tree. No potential features.	3
T28	Silver birch	0.21	-	-	-	-	-	Young tree. No potential features.	3
T29	Alder	0.18	-	-	-	-	-	Young tree. No potential features.	3
T30	Ash	0.08-0.17	-	-	-	-	-	Former coppice stool. Unsuitable structure, no potential.	3
T31	Ash	0.4	-	-	-	-	-	Young tree with multiple pruning scars. No potential features.	3
T32	Lime	0.21	-	-	-	-	-	Young tree with multiple pruning scars. No potential features.	3
T33	Field maple	0.3	-	-	-	-	-	Young tree. No potential features.	3
T34	Ash	0.22	-	-	-	-	-	Multi-stem at c.1.5m. Young, no potential features.	3
T35	Norway Maple	0.24	-	-	-	-	-	Young tree. No potential features.	3
T36	Sycamore	NA	NA	NA	NA	NA	NA	Coppiced to stump level.	NA
T37	Norway Maple	0.27	-	-	-	-	-	Young tree. No potential features.	3
T38	Alder	0.05-0.11	-	-	-	-	-	Triple stemmed at 1m. No potential features.	3
T39	Alder	0.25	-	-	-	-	-	Twisted stem above head height. Young tree, good conditions. No potential features.	3
T40	Hornbeam	0.17	-	-	-	-	+	Young tree. No potential features.	3
T41	Norway Maple	0.32	-	-	-	-	++	Some ivy cover but size and structure of tree unlikely to support potential features. Has some shallow, blind-ended pruning scars.	3
T42	Field maple	0.3	-	-	-	-	-	Semi-mature tree in good condition. No potential features.	3
T43	Norway Maple	0.1	-	-	-	-	-	Young tree. Multi-stem. No potential features.	3
T44	Norway Maple	0.12-0.14	-	-	-	-	-	Young tree. Multi-stem. No potential features.	3
T45	Norway Maple	0.15	-	-	-	-	-	Young tree. No potential features.	3
T46	Ash	0.15-0.2	-	-	-	-	-	Multi-stemmed young tree. Negligible potential.	3
T47	Ash	0.2-0.4	-	-	-	-	-	No potential features visible or likely to be present. Multi-stemmed tree.	3
T48	Field maple	0.25	-	-	-	-	-	Semi-mature tree. Some cut branches. No potential features.	3
T49	Walnut	0.21	-	-	-	-	-	Young tree. No potential features.	3
T50	Horse chestnut	0.2-0.3	-	-	-	-	-	Multi-stemmed semi-mature tree in good condition. No potential features.	3

T51	Walnut	0.23	+	-	-	-	-	Small rot hole present at head height but it is too shallow to permit bat roosting. Young tree. No roosting potential.	3
T52	Field maple	0.58	++	+		+		Trunk of tree mostly dead with some living branches. Potential present in cracks and hollows though these appear damp and exposed from ground level.	1
T53	Oak	0.3	-	-	-	-	-	In garden. Bottom half of main trunk obscured by hedgerow. Young tree, no potential features visible or considered likely to be present.	3
T54	Ash	0.3	-	-	-	-	-	Young tree. No potential features.	3
T55	Cherry	0.25	-	-	-	-	-	Young tree. No potential features.	3
T56	Oak	0.25	-	-	-	-	-	Young tree. No potential features.	3
T57	Oak	1.06	-	-	-	-	-	Mature but well maintained tree. No visible features and limited potential.	3
T58	Ash	0.3	-	-	-	-	-	Young. No features visible. Partly obscured by leylandii and laurel.	3
T59	Oak	1.1	-	+++	-	-	-	Lateral cracks and broken branches. Multiple possible roosting locations.	1*
T60	Oak	0.7	-	-	-	-	+++	Almost completely obscured by ivy. Mature tree with some dead wood visible- may support hidden features.	2
T61	Oak	0.75	-	-	-	-	+++	Almost completely obscured by ivy. Mature tree with some dead wood visible- may support hidden features.	2
T62	Ash	0.17-0.29	-	-	-	-	-	Immature multi-stemmed tree. No potential features.	3
T63	Oak	1.1	-	+	-	-	+++	Some small cracks visible in cut faces of upper limbs which may lead to further cavities. Dense ivy coverage.	2
T64	Crack willow	0.26	-	-	-	-	+++	Small tree partly blown over in wind. No potential features.	3
T65	Crack willow	NA	NA	NA	NA	NA	NA	Coppiced to stump level.	NA
T66	Oak	0.99	-	+	-	+	-	Mature tree with dead and 'blown-out' limb which may offer potential. Woodpecker hole and other dead wood visible.	1
T67	Oak	1.06	-	-	-	-	-	Mature tre in good condition but with some dead wood and branches which are dying back. Potential for hidden or limited features.	2
T68	Oak	0.81	-	-	-	-	-	Mature tree but in good conditon with no potential features.	3
T69	Oak	0.32-0.34	-	-	-	-	-	Mult-stemmed tree. Some dead wood visible but not of suitable form/structure to support suitable features.	3
T70	Oak	0.22	-	-	-	-	-	Young tree. No potential features.	3
T71	Oak	0.22	-	-	-	-	-	Young tree with twisted stem. No potential features.	3
T72	Oak	0.37	-	-	-	-	-	Young tree. No potential features.	3
T73	Ash	0.4	-	-	-	-	+++	The crown is blown out leaving an upward facing cavity. There is dense ivy cover. Has potential to support roosting features.	2
T74	Oak	0.15-0.2	-	-	-	-	-	Young multi-stemmed tree. No potential features.	3

Appendix E

Bat Transect Survey Results Tables – 2013

Bat Transect Survey Results for Land at Bishopton Lane, Stratford-on-Avon, 2013

45Pip: common pipistrelle; 55Pip: soprano pipistrelle; Pip sp: unidentified *Pipistrellus* sp.; BLE: brown long-eared bat; Nyctalus: unidentified *Nyctalus* sp. (noctule or Leisler's); Big Bat: unidentified *Nyctalus* or *Eptesicus* species

Dusk Transect 21 May 2013

Location	Survey Minutes	45Pip	45pip/min	55Pip	55pip/min	Pip sp.	Pip sp/min	Myotis	Myotis/min	BLE	BLE/min	Noctule	Noctule/min	Nyctalus	Nyctalus/min	Grand Total
1A	10	1	0.10	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1
1B	15	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	0.07	0	0.00	1
1C	15	2	0.13	1	0.07	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3
1D	15	1	0.07	4	0.27	0	0.00	1	0.07	0	0.00	1	0.07	0	0.00	7
1E	10	10	1.00	6	0.60	3	0.30	1	0.10	0	0.00	9	0.90	0	0.00	29
1F	10	3	0.30	0	0.00	0	0.00	1	0.10	0	0.00	2	0.20	0	0.00	6
2A	15	4	0.27	2	0.13	0	0.00	0	0.00	0	0.00	1	0.07	0	0.00	7
2B	16	1	0.06	7	0.44	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	8
2C	16	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	0
2D	15	1	0.07	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1
2E	9	0	0.00	1	0.11	0	0.00	0	0.00	1	0.11	10	1.11	0	0.00	12
2F	10	0	0.00	3	0.30	0	0.00	0	0.00	0	0.00	16	1.60	0	0.00	19
3A	15	2	0.13	0	0.00	0	0.00	0	0.00	0	0.00	4	0.27	0	0.00	6
3B	10	0	0.00	1	0.10	0	0.00	0	0.00	0	0.00	7	0.70	0	0.00	8
3C	10	1	0.10	1	0.10	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2
3D	15	1	0.07	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1
3E	15	1	0.07	2	0.13	0	0.00	0	0.00	0	0.00	1	0.07	0	0.00	4
3F	10	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	4	0.40	0	0.00	4
4A	10	9	0.90	1	0.10	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	10
4B	20	0	0.00	1	0.05	0	0.00	1	0.05	0	0.00	0	0.00	0	0.00	2
4C	10	1	0.10	0	0.00	2	0.20	0	0.00	0	0.00	0	0.00	0	0.00	3
4D	5	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	0.20	0	0.00	1
4E	10	0	0.00	2	0.20	0	0.00	0	0.00	0	0.00	9	0.90	0	0.00	11
4F	10	13	1.30	0	0.00	0	0.00	0	0.00	0	0.00	16	1.60	0	0.00	29
4G	5	4	0.80	0	0.00	0	0.00	0	0.00	0	0.00	1	0.20	0	0.00	5
Grand Total		55		32		5		4		1		83		0		180

Dusk Transect 18 June 2013

Location	Survey minutes	45Pip	45pip/min	55Pip	55pip/min	Pip sp.	Pip sp/min	Myotis	Myotis/min	BLE	BLE/min	Noctule	Noctule/min	Nyctalus	Nyctalus/min	Grand Total
1A	10	0	0.00	1	0.10	0	0.00	1	0.10	0	0.00	0	0.00	0	0.00	2
1B	10	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	0.10	0	0.00	1
1C	15	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
1D	15	1	0.07	7	0.47	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	8
1E	15	0	0.00	17	1.13	0	0.00	1	0.07	0	0.00	0	0.00	0	0.00	18
1F	15	1	0.07	0	0.00	1	0.07	0	0.00	0	0.00	1	0.07	0	0.00	3
2A	11	2	0.18	1	0.09	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3
2B	13	0	0.00	10	0.77	1	0.08	1	0.08	1	0.08	1	0.08	0	0.00	14
2C	11	0	0.00	1	0.09	0	0.00	0	0.00	0	0.00	0	0.00	0	0.07	1
2D	15	0	0.00	2	0.13	0	0.00	1	0.07	0	0.00	0	0.00	0	0.00	3
2E	15	1	0.07	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1
2F	11	1	0.09	1	0.09	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2
3A	15	0	0.00	1	0.07	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1
3B	10	5	0.50	1	0.10	0	0.00	1	0.10	0	0.00	1	0.10	0	0.00	8
3C	10	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
3D	10	0	0.00	0	0.00	0	0.00	1	0.10	0	0.00	0	0.00	0	0.00	1
3E	10	0	0.00	6	0.60	1	0.10	0	0.00	0	0.00	2	0.20	0	0.00	9
3F	10	0	0.00	0	0.00	1	0.10	0	0.00	0	0.00	0	0.00	0	0.00	1
4A	10	4	0.40	0	0.00	0	0.00	0	0.00	0	0.00	3	0.30	0	0.00	7
4B	0	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	0.00	0
4C	15	2	0.13	0	0.00	0	0.00	0	0.00	0	0.00	2	0.13	0	0.00	4
4D	10	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
4E	10	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
4F	10	1	0.10	0	0.00	0	0.00	0	0.00	0	0.00	1	0.10	0	0.00	2
4G	10	4	0.40	1	0.10	0	0.00	0	0.00	0	0.00	8	0.80	0	0.00	13
Grand Total		22		49		4		6		1		20		0		102

Dusk Transect 18 July 2013

Location	Survey minutes	45Pip	45pip /min	55Pip	55pip/ min	Pip sp.	Pip sp/ min	Myotis	Myotis/ min	BLE	BLE/ min	Noctule	Noctule/ min	Nyctalus	Nyctalus /min	Grand Total
1A	15	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
1B	10	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
1C	11	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
1D	10	5	0.50	1	0.10	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	6
1E	5	1	0.20	1	0.20	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2
1F	15	1	0.07	0	0.00	0	0.00	0	0.00	0	0.00	1	0.07	0	0.00	2
2A	16	4	0.25	14	0.88	0	0.00	0	0.00	0	0.00	1	0.06	0	0.00	19
2B/3E	21	2	0.10	3	0.14	0	0.00	0	0.00	0	0.08	1	0.05	0	0.00	6
2C	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3A/2D	15	2	0.13	0	0.00	0	0.00	1	0.07	0	0.00	1	0.07	1	0.07	5
2E	15	5	0.33	0	0.00	0	0.00	0	0.00	0	0.00	4	0.27	0	0.00	9
2F	20	2	0.10	7	0.35	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	9
3B	15	11	0.73	1	0.07	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	12
3C	20	3	0.15	0	0.00	0	0.00	0	0.00	0	0.00	1	0.05	0	0.00	4
3D	15	12	0.80	15	1.00	1	0.07	0	0.00	0	0.00	0	0.00	0	0.00	28
3F	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4A	10	2	0.20	2	0.20	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	4
4B	10	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
4C	10	1	0.10	0	0.00	1	0.10	0	0.00	0	0.00	1	0.10	0	0.00	3
4D	5	0	0.00	1	0.20	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1
4E	10	2	0.20	14	1.40	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	16
4F	10	1	0.10	0	0.00	0	0.00	0	0.00	0	N/A	1	0.10	0	0.00	2
4G	10	0	0.00	4	0.40	0	0.00	0	0.00	0	0.00	3	0.30	0	0.00	7
Grand Total		54		63		2		1		0		14		1		135

Appendix F

Static Bat Activity Monitoring Results – 2013

Static analysis period 'May 2013'

45Pip: common pipistrelle; 55Pip: soprano pipistrelle; Pip sp: unidentified *Pipistrellus* sp.; Nyctalus: unidentified *Nyctalus* sp. (noctule or Leisler's); Big Bat: unidentified *Nyctalus* or *Eptesicus* species; Bat sp: unidentified bat species

SM2 A

Date	Time	45Pip	55Pip	Pip sp	Noctule	Nyctalus	Bat sp	
21/05/2013	21:00	8	28	1	79	0	4	
21/05/2013	22:00	50	3	2	13	0	1	
21/05/2013	23:00	18	0	1	3	0	2	
22/05/2013	00:00	4	3	1	9	0	2	
22/05/2013	01:00	3	3	1	1	0	1	
22/05/2013	02:00	4	4	0	0	0	1	
22/05/2013	03:00	7	6	1	0	0	1	
22/05/2013	04:00	14	4	4	0	0	0	
Total passes		108	51	11	105	0	12	
Hours		7.95	7.95	7.95	7.95	7.95	7.95	
Passes per hour		13.58	6.42	1.38	13.21	0.00	1.51	
Date	Time	45Pip	55Pip	Pip sp	Noctule	Nyctalus	Bat sp	
22/05/2013	21:00	5	13	0	83	0	2	
22/05/2013	22:00	0	5	2	19	1	2	
22/05/2013	23:00	5	1	0	0	0	0	
23/05/2013	00:00	0	0	0	0	0	0	
23/05/2013	01:00	0	0	0	0	0	0	
23/05/2013	02:00	1	1	0	0	0	0	
23/05/2013	03:00	0	1	0	0	0	0	
23/05/2013	04:00	4	3	0	0	0	0	
Total passes		15	24	2	102	1	4	
Hours		7.91	7.91	7.91	7.91	7.91	7.91	
Passes per hour		1.90	3.03	0.25	12.90	0.13	0.51	
Combined Total passes		123	75	13	207	1	16	435
Total hours		15.86	15.86	15.86	15.86	15.86	15.86	15.86
Mean passes per hour		7.76	4.73	0.82	13.05	0.06	1.01	27.43

SM2 B

Date	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus	Bat sp	
21/05/2013	21:00	1	2	0	0	14	28	0	
21/05/2013	22:00	49	11	11	8	3	0	0	
21/05/2013	23:00	8	3	43	3	2	0	3	
22/05/2013	00:00	88	10	24	4	0	0	1	
22/05/2013	01:00	80	22	11	4	0	0	0	
22/05/2013	02:00	134	19	7	2	0	0	0	
22/05/2013	03:00	33	17	5	0	0	1	0	
22/05/2013	04:00	58	3	5	0	0	0	0	
Total passes		451	87	106	21	19	29	4	
Hours		7.95	7.95	7.95	7.95	7.95	7.95	7.95	
Passes per hour		56.73	10.94	13.33	2.64	2.39	3.65	0.50	
Date	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus	Bat sp	
22/05/2013	21:00	1	5	0	0	6	7	0	
22/05/2013	22:00	25	2	3	0	0	1	0	
22/05/2013	23:00	160	2	0	0	0	0	0	
23/05/2013	00:00	71	2	1	0	0	0	0	
23/05/2013	01:00	2	2	0	1	0	0	0	
23/05/2013	02:00	6	0	0	0	0	0	0	
23/05/2013	03:00	1	5	1	3	0	0	0	
23/05/2013	04:00	0	4	2	0	0	0	1	
Total passes		266	22	7	4	6	8	1	
Hours		7.91	7.91	7.91	7.91	7.91	7.91	7.91	
Passes per hour		33.63	2.78	0.88	0.51	0.76	1.01	0.13	
Combined Total passes		717	109	113	25	25	37	5	1031
Total hours		15.86	15.86	15.86	15.86	15.86	15.86	15.86	15.86
Mean passes per hour		45.21	6.87	7.12	1.58	1.58	2.33	0.32	65.01

SM2 C

Date	Time	45Pip	55Pip	Pip sp	Noctule	Bat sp	
21/05/2013	21:00	0	0	1	59	0	
21/05/2013	22:00	6	3	0	9	1	
21/05/2013	23:00	21	0	0	0	0	
22/05/2013	00:00	36	0	0	0	0	
22/05/2013	01:00	14	4	0	0	1	
22/05/2013	02:00	3	0	0	0	0	
22/05/2013	03:00	3	0	0	0	0	
22/05/2013	04:00	0	0	2	0	0	
Total passes		83	7	3	68	2	
Hours		7.95	7.95	7.95	7.95	7.95	
Passes per hour		10.44	0.88	0.38	8.55	0.25	
Date	Time	45Pip	55Pip	Pip sp	Noctule	Bat sp	
22/05/2013	21:00	0	1	0	14	0	
22/05/2013	22:00	1	2	0	2	0	
22/05/2013	23:00	0	0	1	0	0	
23/05/2013	00:00	0	0	0	0	0	
23/05/2013	01:00	1	0	0	0	0	
23/05/2013	02:00	0	0	0	0	0	
23/05/2013	03:00	0	0	0	0	0	
23/05/2013	04:00	0	0	0	0	0	
Total passes		2	3	1	16	0	
Hours		7.91	7.91	7.91	7.91	7.91	
Passes per hour		0.25	0.38	0.13	2.02	0.00	TOTALS
Combined Total passes		85	10	4	84	2	185
Total hours		15.86	15.86	15.86	15.86	15.86	15.86
Mean passes per hour		5.36	0.63	0.25	5.30	0.13	11.66

SM2 D

Date	Time	45Pip	Pip sp	Myotis	Noctule	Nyctalus	Bat sp	
21/05/2013	21:00	0	0	0	2	0	0	
21/05/2013	22:00	1	0	0	7	0	1	
21/05/2013	23:00	2	1	0	0	0	0	
22/05/2013	00:00	1	0	0	0	0	0	
22/05/2013	01:00	0	0	1	0	0	0	
22/05/2013	02:00	0	1	0	0	0	0	
22/05/2013	03:00	0	1	0	1	0	0	
22/05/2013	04:00	1	0	0	0	0	0	
Total passes		5	3	1	10	0	1	
Hours		7.95	7.95	7.95	7.95	7.95	7.95	
Passes per hour		0.63	0.38	0.13	1.26	0.00	0.13	
Date	Time	45Pip	Pip sp	Myotis	Noctule	Nyctalus	Bat sp	
22/05/2013	21:00	0	0	0	2	0	0	
22/05/2013	22:00	1	1	0	0	1	0	
22/05/2013	23:00	0	0	0	0	0	0	
23/05/2013	00:00	0	0	0	0	0	0	
23/05/2013	01:00	0	0	0	0	0	0	
23/05/2013	02:00	0	0	0	0	0	0	
23/05/2013	03:00	0	0	0	0	0	0	
23/05/2013	04:00	0	0	0	0	0	0	
Total passes		1	1	0	2	1	0	
Hours		7.91	7.91	7.91	7.91	7.91	7.91	
Passes per hour		0.13	0.13	0.00	0.25	0.13	0.00	TOTALS
Combined Total passes		6	4	1	12	1	1	25
Total hours		15.86	15.86	15.86	15.86	15.86	15.86	15.86
Mean passes per hour		0.38	0.25	0.06	0.76	0.06	0.06	1.58

Static analysis period 'June 2013'

45Pip: common pipistrelle; 55Pip: soprano pipistrelle; Pip sp: unidentified *Pipistrellus* sp.; Nyctalus: unidentified *Nyctalus* sp. (noctule or Leisler's); Big Bat: unidentified *Nyctalus* or *Eptesicus* species; Bat sp: unidentified bat species

SM2 A

Date	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus	
18/06/2013	21:00	3	1	1	0	13	0	
18/06/2013	22:00	6	4	3	2	3	0	
18/06/2013	23:00	0	1	1	0	1	0	
19/06/2013	00:00	10	0	0	0	2	1	
19/06/2013	01:00	2	4	0	0	0	0	
19/06/2013	02:00	0	1	0	1	0	1	
19/06/2013	03:00	15	4	0	0	2	0	
19/06/2013	04:00	9	5	2	0	4	0	
Total passes		45	20	7	3	25	2	
Hours		7.37	7.37	7.37	7.37	7.37	7.37	
Passes per hour		6.11	2.71	0.95	0.41	3.39	0.27	
Date	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus	
19/06/2013	21:00	1	0	0	0	9	0	
19/06/2013	22:00	3	3	3	0	3	0	
19/06/2013	23:00	1	0	0	0	1	0	
20/06/2013	00:00	1	0	0	0	0	0	
20/06/2013	01:00	1	0	0	0	1	0	
20/06/2013	02:00	2	0	0	0	0	0	
20/06/2013	03:00	1	0	1	0	0	0	
20/06/2013	04:00	10	0	1	0	5	0	
Total passes		20	3	5	0	19	0	
Hours		7.36	7.36	7.36	7.36	7.36	7.36	
Passes per hour		2.72	0.41	0.68	0.00	2.58	0.00	
Date	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus	
23/06/2013	21:00	0	1	1	0	2	0	
23/06/2013	22:00	14	4	0	1	14	3	
23/06/2013	23:00	3	0	0	2	1	0	
24/06/2013	00:00	1	0	1	1	1	0	
24/06/2013	01:00	4	0	0	1	0	1	
24/06/2013	02:00	5	0	0	1	0	0	
24/06/2013	03:00	4	2	0	0	0	0	
24/06/2013	04:00	1	1	0	0	0	0	
Total passes		32	8	2	6	18	4	
Hours		7.37	7.37	7.37	7.37	7.37	7.37	
Passes per hour		4.34	1.09	0.27	0.81	2.44	0.54	
Combined Total passes		97	31	14	9	62	6	219
Total hours		22.1	22.1	22.1	22.1	22.1	22.1	22.1
Mean passes per hour		4.39	1.40	0.63	0.41	2.81	0.27	9.91

SM2 B

Date	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus	Bat sp	
18/06/2013	21:00	0	1	1	0	8	0	0	
18/06/2013	22:00	0	0	5	1	16	0	0	
18/06/2013	23:00	12	0	1	7	7	0	0	
19/06/2013	00:00	14	0	3	5	0	0	0	
19/06/2013	01:00	12	4	3	1	1	0	0	
19/06/2013	02:00	8	4	16	2	1	0	0	
19/06/2013	03:00	5	0	7	0	3	0	0	
19/06/2013	04:00	1	1	4	0	5	13	0	
Total passes		52	10	40	16	41	13	0	
Hours		7.37	7.37	7.37	7.37	7.37	7.37	7.37	
Passes per hour		7.06	1.36	5.43	2.17	5.56	1.76	0.00	
Date	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus	Bat sp	
19/06/2013	21:00	0	0	0	0	14	0	0	
19/06/2013	22:00	60	1	6	0	95	3	0	
19/06/2013	23:00	267	21	69	19	2	0	1	
20/06/2013	00:00	256	0	12	3	0	0	0	
20/06/2013	01:00	197	0	16	89	0	0	0	
20/06/2013	02:00	69	2	14	126	0	0	0	
20/06/2013	03:00	40	10	38	43	0	1	0	
20/06/2013	04:00	10	4	4	0	0	0	0	
Total passes		899	38	159	280	111	4	1	
Hours		7.36	7.36	7.36	7.36	7.36	7.36	7.36	
Passes per hour		122.15	5.16	21.60	38.04	15.08	0.54	0.14	
Date	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus	Bat sp	
23/06/2013	21:00	0	0	0	0	2	0	0	
23/06/2013	22:00	8	2	2	0	3	2	0	
23/06/2013	23:00	108	1	9	0	1	1	0	
24/06/2013	00:00	99	0	3	0	0	1	0	
24/06/2013	01:00	7	12	19	0	0	0	0	
24/06/2013	02:00	30	0	1	0	0	0	0	
24/06/2013	03:00	4	1	2	1	0	0	0	
24/06/2013	04:00	1	0	0	0	0	0	0	
Total passes		257	16	36	1	6	4	0	
Hours		7.37	7.37	7.37	7.37	7.37	7.37	7.37	
Passes per hour		34.87	2.17	4.88	0.14	0.81	0.54	0.00	
Combined Total passes		1208	64	235	297	158	21	1	1984
Total hours		22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1
Mean passes per hour		54.66	2.90	10.63	13.44	7.15	0.95	0.05	89.77

SM2 C

Date	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus	Bat sp
18/06/2013	21:00	0	0	0	0	6	0	0
18/06/2013	22:00	2	2	4	1	12	1	1
18/06/2013	23:00	7	1	0	2	1	2	1
19/06/2013	00:00	1	1	1	2	2	0	0
19/06/2013	01:00	0	0	0	2	0	0	0
19/06/2013	02:00	2	0	0	0	0	1	0
19/06/2013	03:00	2	0	0	0	0	0	0
19/06/2013	04:00	1	0	1	0	7	0	0
Total passes		15	4	6	7	28	4	2
Hours		7.37	7.37	7.37	7.37	7.37	7.37	7.37
Passes per hour		2.04	0.54	0.81	0.95	3.80	0.54	0.27
Date	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus	Bat sp
19/06/2013	21:00	0	0	0	0	3	0	1
19/06/2013	22:00	1	3	0	0	1	1	0
19/06/2013	23:00	1	0	0	0	0	0	0
20/06/2013	00:00	1	0	1	0	0	0	0
20/06/2013	01:00	1	0	1	0	0	2	0
20/06/2013	02:00	2	0	1	0	0	0	0

20/06/2013	03:00	0	0	0	0	0	0	0	
20/06/2013	04:00	1	0	0	0	0	0	0	
Total passes		7	3	3	0	4	3	1	
Hours		7.36	7.36	7.36	7.36	7.36	7.36	7.36	
Passes per hour		0.95	0.41	0.41	0.00	0.54	0.41	0.14	
Date	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus	Bat sp	
23/06/2013	21:00	0	0	0	0	2	0	0	
23/06/2013	22:00	0	0	0	0	4	6	1	
23/06/2013	23:00	1	0	1	0	0	0	0	
24/06/2013	00:00	0	0	0	0	0	0	0	
24/06/2013	01:00	0	0	1	0	0	0	0	
24/06/2013	02:00	0	0	0	0	0	0	0	
24/06/2013	03:00	0	0	0	0	0	0	0	
24/06/2013	04:00	0	0	1	0	0	0	0	
Total passes		1	0	3	0	6	6	1	
Hours		7.37	7.37	7.37	7.37	7.37	7.37	7.37	
Passes per hour		0.14	0.00	0.41	0.00	0.81	0.81	0.14	TOTALS
Combined Total passes		23	7	12	7	38	13	4	104
Total hours		22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1
Mean passes per hour		1.04	0.32	0.54	0.32	1.72	0.59	0.18	4.71

SM2 D

Date	Time	45Pip	55Pip	Pip sp	Noctule	Nyctalus	Bat sp	
18/06/2013	21:00	0	0	0	1	0	0	
18/06/2013	22:00	3	0	0	4	0	0	
18/06/2013	23:00	2	0	0	1	0	0	
19/06/2013	00:00	0	0	0	2	0	1	
19/06/2013	01:00	2	0	1	0	0	0	
19/06/2013	02:00	1	0	0	0	0	0	
19/06/2013	03:00	2	0	0	5	0	0	
19/06/2013	04:00	0	0	0	0	0	0	
Total passes		10	0	1	13	0	1	
Hours		7.37	7.37	7.37	7.37	7.37	7.37	
Passes per hour		1.36	0.00	0.14	1.76	0.00	0.14	
Date	Time	45Pip	55Pip	Pip sp	Noctule	Nyctalus	Bat sp	
19/06/2013	21:00	0	0	0	0	0	0	
19/06/2013	22:00	1	0	0	2	1	1	
19/06/2013	23:00	4	0	0	0	1	0	
20/06/2013	00:00	1	0	0	0	0	0	
20/06/2013	01:00	2	1	0	0	0	0	
20/06/2013	02:00	0	0	0	0	0	0	
20/06/2013	03:00	0	0	0	0	0	0	
20/06/2013	04:00	0	0	0	0	0	0	
Total passes		8	1	0	2	2	1	
Hours		7.36	7.36	7.36	7.36	7.36	7.36	
Passes per hour		1.09	0.14	0.00	0.27	0.27	0.14	
Date	Time	45Pip	55Pip	Pip sp	Noctule	Nyctalus	Bat sp	
23/06/2013	21:00	1	0	0	0	1	0	
23/06/2013	22:00	0	1	0	0	1	0	
23/06/2013	23:00	0	0	0	0	0	0	
24/06/2013	00:00	0	0	0	0	0	0	
24/06/2013	01:00	0	0	0	0	0	0	
24/06/2013	02:00	0	0	0	0	0	0	
24/06/2013	03:00	0	2	0	0	0	0	
24/06/2013	04:00	0	0	0	0	0	0	
Total passes		1	3	0	0	2	0	
Hours		7.37	7.37	7.37	7.37	7.37	7.37	
Passes per hour		0.14	0.41	0.00	0.00	0.27	0.00	TOTALS
Combined Total passes		19	4	1	15	4	2	45
Total hours		22.1	22.1	22.1	22.1	22.1	22.1	22.1
Mean passes per hour		0.86	0.18	0.05	0.68	0.18	0.09	2.04

Static analysis period 'July 2013'

45Pip: common pipistrelle; 55Pip: soprano pipistrelle; Pip sp: unidentified *Pipistrellus* sp.; Nyctalus: unidentified *Nyctalus* sp. (noctule or Leisler's); Big Bat: unidentified *Nyctalus* or *Eptesicus* species; Bat sp: unidentified bat species

SM2 A

Day	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus	
12/07/2013	21:00	1	2	0	0	2	0	
12/07/2013	22:00	10	64	5	1	4	0	
12/07/2013	23:00	6	12	1	2	2	1	
13/07/2013	00:00	2	3	1	1	1	1	
13/07/2013	01:00	1	2	2	6	3	0	
13/07/2013	02:00	1	4	2	0	0	2	
13/07/2013	03:00	5	3	0	0	0	0	
13/07/2013	04:00	14	2	0	0	2	0	
13/07/2013	05:00	0	0	0	0	0	0	
Total passes		40	92	11	10	14	4	
Hours		7.66	7.66	7.66	7.66	7.66	7.66	
Passes per hour		5.22	12.01	1.44	1.31	1.83	0.52	
Day	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus	
13/07/2013	21:00	0	7	0	0	0	0	
13/07/2013	22:00	17	115	2	0	0	0	
13/07/2013	23:00	5	12	0	1	0	0	
14/07/2013	00:00	3	12	2	1	0	0	
14/07/2013	01:00	0	2	2	0	1	0	
14/07/2013	02:00	0	5	1	1	0	1	
14/07/2013	03:00	5	8	0	0	1	0	
14/07/2013	04:00	24	10	0	0	8	1	
14/07/2013	05:00	0	0	0	0	0	0	
Total passes		54	171	7	3	10	2	
Hours		7.69	7.69	7.69	7.69	7.69	7.69	
Passes per hour		7.02	22.24	0.91	0.39	1.30	0.26	
Day	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus	
14/07/2013	21:00	1	1	0	0	0	0	
14/07/2013	22:00	11	148	3	1	0	0	
14/07/2013	23:00	6	1	2	2	0	0	
15/07/2013	00:00	1	0	0	0	0	0	
15/07/2013	01:00	1	2	0	2	0	0	
15/07/2013	02:00	4	6	0	0	0	1	
15/07/2013	03:00	4	3	0	0	0	1	
15/07/2013	04:00	14	3	0	0	0	0	
15/07/2013	05:00	0	0	0	0	0	0	
Total passes		42	164	5	5	0	2	
Hours		7.73	7.73	7.73	7.73	7.73	7.73	
Passes per hour		5.43	21.22	0.65	0.65	0.00	0.26	
Combined Total passes		136	427	23	18	24	8	636
Total hours		23.08	23.08	23.08	23.08	23.08	23.08	23.08
Mean passes per hour		5.89	18.50	1.00	0.78	1.04	0.35	27.56

SM2 B

Day	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus
12/07/2013	21:00	0	0	0	0	0	0
12/07/2013	22:00	4	0	0	0	9	0
12/07/2013	23:00	5	2	1	0	3	0
13/07/2013	00:00	3	2	2	1	0	1
13/07/2013	01:00	1	1	1	0	0	1
13/07/2013	02:00	2	0	0	0	3	3
13/07/2013	03:00	8	0	0	0	1	1
13/07/2013	04:00	1	0	0	0	0	0
13/07/2013	05:00	0	0	0	0	1	0
Total passes		24	5	4	1	17	6
Hours		7.66	7.66	7.66	7.66	7.66	7.66

Passes per hour		3.13	0.65	0.52	0.13	2.22	0.78	
Day	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus	
13/07/2013	21:00	0	0	0	0	6	0	
13/07/2013	22:00	3	0	2	0	2	0	
13/07/2013	23:00	3	0	0	1	1	0	
14/07/2013	00:00	1	1	1	0	1	0	
14/07/2013	01:00	1	1	2	0	1	2	
14/07/2013	02:00	0	0	1	0	1	0	
14/07/2013	03:00	1	0	0	0	0	0	
14/07/2013	04:00	0	0	0	0	1	0	
14/07/2013	05:00	0	0	0	0	0	0	
Total passes		9	2	6	1	13	2	
Hours		7.69	7.69	7.69	7.69	7.69	7.69	
Passes per hour		1.17	0.26	0.78	0.13	1.69	0.26	
Day	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus	
14/07/2013	21:00	0	0	0	0	0	0	
14/07/2013	22:00	1	1	0	0	0	0	
14/07/2013	23:00	3	0	0	0	0	2	
15/07/2013	00:00	3	0	2	1	1	0	
15/07/2013	01:00	2	0	2	0	0	1	
15/07/2013	02:00	1	2	1	0	0	0	
15/07/2013	03:00	1	0	0	0	0	1	
15/07/2013	05:00	0	0	0	0	1	0	
Total passes		11	3	5	1	2	4	
Hours		7.73	7.73	7.73	7.73	7.73	7.73	
Passes per hour		1.42	0.39	0.65	0.13	0.26	0.52	
Combined Total passes		44	10	15	3	32	12	TOTALS
Total hours		23.08	23.08	23.08	23.08	23.08	23.08	23.08
Mean passes per hour		1.91	0.43	0.65	0.13	1.39	0.52	5.03

SM2 C

Day	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus
12/07/2013	21:00	0	1	0	0	6	0
12/07/2013	22:00	12	3	1	1	11	1
12/07/2013	23:00	9	1	0	1	0	0
13/07/2013	00:00	3	2	1	1	2	0
13/07/2013	01:00	7	0	0	0	1	0
13/07/2013	02:00	4	2	0	1	0	0
13/07/2013	03:00	1	3	1	1	1	0
13/07/2013	04:00	15	2	1	1	2	2
13/07/2013	05:00	0	0	0	0	0	0
Total passes		51	14	4	6	23	3
Hours		7.66	7.66	7.66	7.66	7.66	7.66
Passes per hour		6.66	1.83	0.52	0.78	3.00	0.39
Day	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus
13/07/2013	21:00	0	0	0	0	1	0
13/07/2013	22:00	10	4	0	0	5	1
13/07/2013	23:00	8	4	0	1	0	0
14/07/2013	00:00	7	4	3	0	0	1
14/07/2013	01:00	2	0	2	1	0	0
14/07/2013	02:00	5	0	2	1	0	0
14/07/2013	03:00	39	2	2	0	0	0
14/07/2013	04:00	14	2	0	0	0	0
14/07/2013	05:00	0	0	0	0	0	0
Total passes		85	16	9	3	6	2
Hours		7.69	7.69	7.69	7.69	7.69	7.69
Passes per hour		11.05	2.08	1.17	0.39	0.78	0.26
Day	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus
14/07/2013	21:00	0	0	0	0	2	0
14/07/2013	22:00	13	12	0	0	1	0
14/07/2013	23:00	13	7	1	0	0	0
15/07/2013	00:00	7	3	1	0	0	0

15/07/2013	01:00	15	2	0	0	1	0	
15/07/2013	02:00	5	3	0	0	1	0	
15/07/2013	03:00	9	2	0	1	0	0	
15/07/2013	04:00	16	0	0	0	1	0	
15/07/2013	05:00	0	0	0	0	0	0	
Total passes		78	29	2	1	6	0	
Hours		7.73	7.73	7.73	7.73	7.73	7.73	
Passes per hour		10.09	3.75	0.26	0.13	0.78	0.00	TOTALS
Combined Total passes		214	59	15	10	35	5	338
Total hours		23.08	23.08	23.08	23.08	23.08	23.08	23.08
Mean passes per hour		9.27	2.56	0.65	0.43	1.52	0.22	14.64

SM2 D

Day	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus	Big Bat	
12/07/2013	21:00	0	1	0	0	3	0	0	
12/07/2013	22:00	3	8	0	0	5	0	0	
12/07/2013	23:00	10	5	0	2	0	0	0	
13/07/2013	00:00	26	4	1	0	0	2	1	
13/07/2013	01:00	1	4	2	0	0	0	0	
13/07/2013	02:00	2	1	1	0	0	0	0	
13/07/2013	03:00	52	2	0	0	0	0	0	
13/07/2013	04:00	3	3	0	0	7	10	1	
13/07/2013	05:00	0	0	0	0	0	0	0	
Total passes		97	28	4	2	15	12	2	
Hours		7.66	7.66	7.66	7.66	7.66	7.66	7.66	
Passes per hour		12.66	3.66	0.52	0.26	1.96	1.57	0.26	
Day	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus	Big Bat	
13/07/2013	21:00	0	0	0	0	11	0	0	
13/07/2013	22:00	24	3	6	0	5	0	0	
13/07/2013	23:00	26	7	3	1	1	0	1	
14/07/2013	00:00	14	11	1	0	1	0	0	
14/07/2013	01:00	2	4	0	0	0	0	0	
14/07/2013	02:00	10	7	0	0	1	0	0	
14/07/2013	03:00	68	7	1	0	0	0	0	
14/07/2013	04:00	43	6	0	0	32	1	0	
14/07/2013	05:00	0	0	0	0	0	0	0	
Total passes		187	45	11	1	51	1	1	
Hours		7.69	7.69	7.69	7.69	7.69	7.69	7.69	
Passes per hour		24.32	5.85	1.43	0.13	6.63	0.13	0.13	
Day	Time	45Pip	55Pip	Pip sp	Myotis	Noctule	Nyctalus	Big Bat	
14/07/2013	21:00	0	0	0	0	0	0	0	
15/07/2013	22:00	7	11	0	0	0	2	0	
14/07/2013	23:00	11	9	0	2	0	0	0	
15/07/2013	00:00	14	1	0	0	2	0	0	
15/07/2013	01:00	7	14	0	6	0	0	0	
15/07/2013	02:00	8	3	0	1	0	0	0	
15/07/2013	03:00	138	3	1	0	0	0	0	
15/07/2013	04:00	12	7	0	0	0	7	1	
15/07/2013	05:00	0	0	0	0	0	0	0	
Total passes		197	48	1	9	2	9	1	
Hours		7.73	7.73	7.73	7.73	7.73	7.73	7.73	
Passes per hour		25.49	6.21	0.13	1.16	0.26	1.16	0.13	TOTALS
Combined Total passes		481	121	16	12	68	22	4	724
Total hours		23.08	23.08	23.08	23.08	23.08	23.08	23.08	23.08
Mean passes per hour		20.84	5.24	0.69	0.52	2.95	0.95	0.17	31.37

Appendix G

Breeding Bird Survey Results

Full Breeding Bird Survey Results 2012

Common Name	Latin Name	Breeding Status ¹	BoCC ²	Survey Date					Notes
				10/4/12	20/4/12	16/5/12	30/5/12	13/6/12	
Barn owl ³	<i>Tyto alba</i>	-	Amber						One individual observed hunting within the Phase 1 area during a bat survey on 5 July 2012.
Blackcap	<i>Sylvia atricapilla</i>	Possible	Green		√	√	√		Two singing males heard near canal and in tree belt north of F2.
Blackbird	<i>Turdus merula</i>	Probable	Green	√	√	√	√	√	Abundant across area. Territory holding males, pairs and groups noted.
Blue tit	<i>Parus caeruleus</i>	Confirmed	Green	√	√	√	√	√	Common across site in hedgerows and trees.
Bullfinch	<i>Pyrrhula pyrrhula</i>	Probable	Amber	√		√			Pair seen in suitable habitat within Phase 1 area on one occasion and pair present near canal.
Carrion Crow	<i>Corvus corone corone</i>	-	Green	√	√	√	√	√	Flyover
Chaffinch	<i>Fringilla coelebs</i>	Probable	Green	√	√	√	√	√	Common across site, particularly south-eastern boundary.
Chiffchaff	<i>Phylloscopus collybita</i>	Confirmed	Green	√	√	√	√	√	Multiple territories noted across site. Family group also seen.
Collared Dove	<i>Streptopelia decaocto</i>	-	Green			F ⁴			Present in off-site gardens and flying over site only.
Dunnock	<i>Prunella modularis</i>	Probable	Amber	√	√	√	√	√	Numerous territory-holding males across the site. Five territories within Phase 1 area and six over wider survey area.
Goldfinch	<i>Carduelis carduelis</i>	Possible	Green	√	√	F	√	√	Common as flyover species. Occasional groups in hedgerow trees near Spa Farm and other housing.
Great spotted woodpecker	<i>Dendrocopos major</i>	Possible	Green				√		Seen on one occasion near mature trees in F3.
Great tit	<i>Parus major</i>	Probable	Green	√	√	√	√	√	Abundant with numerous territories apparent in April and May.
Greenfinch	<i>Carduelis chloris</i>	Probable	Green	√	√	√	√	√	Present in low numbers on-site along southern boundary and around Spa Farm. More common in neighbouring gardens with territories likely to extend to the site.
Green woodpecker	<i>Picus viridis</i>	Possible	Amber				√		One individual foraging within F3.
Grey heron	<i>Ardea cinerea</i>	-	Green				F		Flyover only
House martin	<i>Delichon urbica</i>	-	Amber			√	√	√	Four+ individuals foraging around Spa Farm.
House sparrow	<i>Passer domesticus</i>	Confirmed	Red	√	√	√	√	√	Abundant along southern and western boundary hedgerows and noted in other hedgerows. Confirmed breeder near Spa Farm.
Jackdaw	<i>Corvus monedula</i>	-	Green		√	F	√	√	Flyover
Lesser black-backed gull	<i>Larus fuscus</i>	-	Amber	√					Flyover
Long-tailed tit	<i>Aegithalos caudatus</i>	Possible	Green	√		√	√	√	Individuals seen mostly along northern boundary on several occasions.
Magpie	<i>Pica pica</i>	-	Green	√		√	√	√	Common within hedgerows, particularly in north, and as flyover species.
Mallard	<i>Anas platyrhynchos</i>	-	Amber	√	√		√		Numerous along off-site canal with female using grassland within F3.
Moorhen	<i>Gallinula chloropus</i>	-	Green	√	√			√	Along canal edge only. Few individuals seen.
Pheasant	<i>Phasianus colchicus</i>	-	No Status				√		One female flushed from hedgerow north-east of Spa Farm.
Robin	<i>Erithacus</i>	Confirmed	Green	√	√	√	√	√	Common across all areas, particularly northern tree belt and F2/F3 hedgerows. Newly fledged birds seen from 30 May.

Rook	<i>Corvus frugilegus</i>	-	Green				√		Flyover only.	
Skylark	<i>Alauda arvensis</i>	Probable	Red	√	√	√	√	√	Numerous singing males across whole site with transfer between off-site arable fields. At least four territories present within Phase 1 area. Most abundant in F2 with eight likely territories and possible three territories in F3.	
Sparrowhawk	<i>Accipiter nisus</i>	-	Green		(√)	√			Plucked remains of woodpigeon found and seen hunting along southern boundary of F1.	
Starling	<i>Sturnus vulgaris</i>	-	Red	√	√	F	√	√	Numerous birds seen commuting over site taking food to eaves of off-site houses. Did not utilise the site until June when the grass in F3 was sprayed/cut. Then flock of 30+ birds foraged in this area. Flock also foraged within F2 once crop harvested in September but none seen in Phase 1 area.	
Swallow	<i>Hirundo rustica</i>	-	Amber				√	√	Low numbers seen foraging around Spa Farm and F2.	
Swift	<i>Apus apus</i>	-	Amber					√	√	Small screaming parties present over all areas. Potentially nesting in off-site housing.
Tawny owl	<i>Strix aluco</i>	-	Green						Heard calling within tree belt adjacent to the site during 5 July bat survey.	
Whitethroat	<i>Sylvia communis</i>	Possible	Amber				√		One male individual calling within southern hedgerow of Phase 1 area. Suitable breeding habitat present.	
Woodpigeon	<i>Columba palumbus</i>	Probable	Green	√	√	√	√	√	Abundant across whole site, numerous singing individuals. Mainly within hedgerows and trees but also utilise field.	
Wren	<i>Troglodytes troglodytes</i>	Probable	Green	√	√	√	√	√	Numerous territories within hedgerows across site.	
Yellowhammer	<i>Emberiza citrinella</i>	Possible	Red	√	√	√	√	√	Pair present within Phase 1 area. Singing male holding territory near Spa Farm.	
Total	37			22	20(1)	26	28	22		

1- Breeding Status: Confirmed, Probable or Possible breeders as assessed using field evidence. Criteria given within European Ornithology Atlas Committee, 1979. *Categories of Breeding Bird Evidence*.

2- Birds of Conservation Concern- as listed within 'Eaton MA, Brown AF, Noble DG, Musgrove AJ, Hearn R, Aebischer NJ, Gibbons DW, Evans A and Gregory RD (2009) Birds of Conservation Concern 3: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man. *British Birds* 102, pp296-341'

3- Species in bold type are those identified within the First Phase of Development Area.

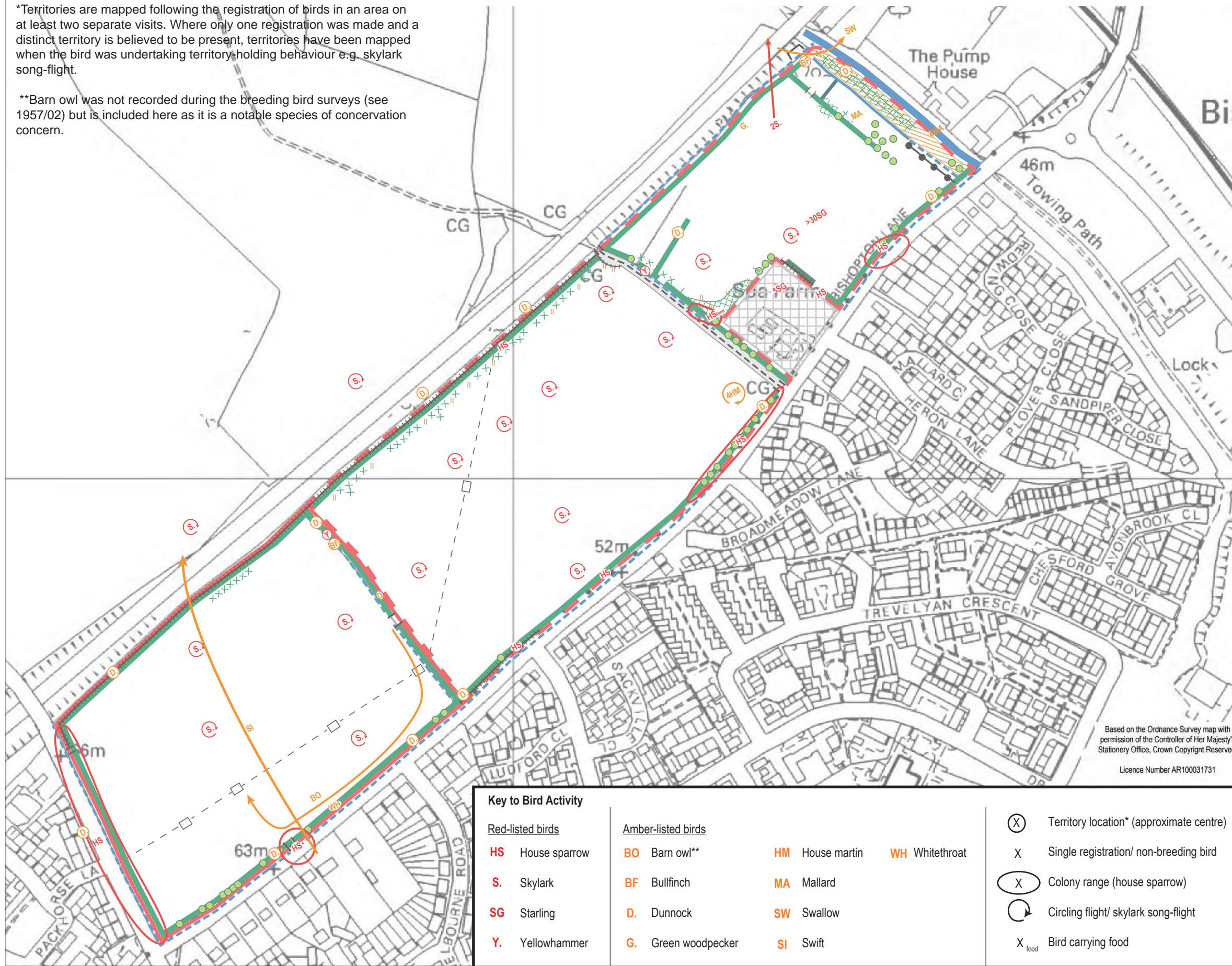
4- F= flyover. Bird seen flying over the site only.

Appendix H

Breeding Bird Survey Results Plan
CSa/1957/108

*Territories are mapped following the registration of birds in an area on at least two separate visits. Where only one registration was made and a distinct territory is believed to be present, territories have been mapped when the bird was undertaking territory-holding behaviour e.g. skylark song-flight.

**Barn owl was not recorded during the breeding bird surveys (see 1957/02) but is included here as it is a notable species of conservation concern.



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- Key to Habitats**
- Wider Survey Area
 - First Phase of Development Area
 - Individual Tree
 - Fence
 - Earth Bank
 - Hedgerow
 - Coniferous Hedgerow
 - Pylon
 - Dry Ditch
 - Public Right of Way
 - Scattered Tall Ruderal
 - Dense Scrub/Continuous Scrub
 - Scattered Scrub
 - Standing Water
 - Continuous Ruderal
 - Fn Field Number
 - A Arable Land
 - SI Semi-improved Grassland
 - Area not included in Surveyed Area
 - Culvert
 - Concrete Track

Key to Bird Activity

Red-listed birds		Amber-listed birds	
HS House sparrow	BO Barn owl**	HM House martin	WH Whitethroat
S. Skylark	BF Bullfinch	MA Mallard	
SG Starling	D. Dunnock	SW Swallow	
Y. Yellowhammer	G. Green woodpecker	SI Swift	

X Territory location* (approximate centre)
X Single registration/ non-breeding bird
X Colony range (house sparrow)
⦿ Circling flight/ skylark song-flight
X_{food} Bird carrying food

Appendix I

Wintering Bird Survey Results

Wintering Bird Survey Results, Bishopton Lane, Stratford- Upon- Avon

Species name	Latin name	Conservation/ legal status	13/12/12 <i>Hazy to begin, ground frost, no cloud, still</i>	9/01/2013 <i>Bright, mild, no cloud, still</i>	15/02/2013 <i>Sunny and dry, some light frost, cloud 3/8 oktas, still</i>
Mute swan	<i>Cygnus olor</i>	Green	-	-	Three flew eastwards over the site
Canada goose	<i>Branta Canadensis</i>	-	-	Two individuals flying over F2 towards canal	-
Mallard	<i>Anas platyrhynchos</i>	Amber	-	Several pairs on canal and flying over site to/from canal	-
Pheasant	<i>Phasianus colchius</i>	-	Three females near Spa Farm	-	Two females at Spa Farm
Moorhen	<i>Gallinula chloropus</i>	Green	-	Two in undergrowth along canal bank	-
Lapwing	<i>Vanellus vanellus</i>	Red	-	-	c.40 birds flew eastwards over the site . A further 31 birds were counted flying eastwards just north of the site.
Black-headed gull	<i>Chroicocephalus ridibundus</i>	Amber	-	One flying over site near canal	-
Buzzard	<i>Buteo buteo</i>	Green	One soaring over eastern part of site	-	-
Sparrowhawk	<i>Accipiter nisus</i>	Green	-	One bird hunting along A46 corridor trees	-
Stock dove	<i>Columba oenas</i>	Amber	-	Three birds foraging on farmland in F3	One feeding in ploughed F3 and flyover
Wood pigeon	<i>Columba palumbus</i>	Green	Flocks of up to 72 wood pigeons feeding in F2, smaller flocks elsewhere. Frequent in trees	Numerous, small groups and one group of c.20 on farmland.	Numerous, in small groups on farmland/in trees. One larger group of c.20 feeding in F1
Collared dove	<i>Streptopelia decaocto</i>	Green	One seen in trees along Bishopton Lane	-	One singing at south-west corner of site
Great spotted woodpecker	<i>Dendrocopos major</i>	Green	One individual passing over site from A46 tree belt	-	Two seen- one drumming in mature oaks near canal. Another present in hedgerow tree at western end of Bishopton Lane.
Skylark	<i>Alauda arvensis</i>	Red	5 individuals in F2.	Peak of 6 within middle field, flying together	One heard singing offsite.
Meadow pipit	<i>Anthus pratensis</i>	Amber	-	-	One perched within H4. Chased off by sparrows.
Pied wagtail	<i>Motacilla alba</i>	Green	-	One foraging with redwing and yellowhammer flock in F2	-

Wren	<i>Troglodytes troglodytes</i>	Green	-	A few individuals noted within hedgerows. Under-recorded	One singing at Spa Farm
Dunnoch	<i>Prunella modularis</i>	Amber	Present within hedgerows across site	Frequent within hedgerows, several individuals singing	Numerous across site with multiple birds singing
Robin	<i>Erithacus rubecula</i>	Green	Occasional within hedgerows around site	Frequent within hedgerows around the site, many singing	Numerous across site with most birds singing
Song thrush	<i>Turdus philomelos</i>	Red	-	-	One bird singing at Spa Farm and one singing offsite along canal
Redwing	<i>Turdus iliacus</i>	Red, Sch 1	Numerous within hedgerows and flying over site	Large flocks <30 feeding on farmland and grouping within hedgerow trees	Small group of three flying over site only
Mistle thrush	<i>Turdus viscivorus</i>	Amber	One seen along Bishopton Lane trees	One singing near Spa Farm, and another calling as flew over site	Two individuals foraging in F2. Two singing birds present at Spa Farm and near canal
Fieldfare	<i>Turdus pilaris</i>	Red, Sch 1	Several within hedgerows, particularly along Bishopton Lane.	-	-
Blackbird	<i>Turdus merula</i>	Green	Frequent in field and hedges	Abundant across site	Abundant in hedgerows across site
Goldcrest	<i>Regulus regulus</i>	Green	-	-	One calling within Leylandii at Spa Farm
Great tit	<i>Parus major</i>	Green	Frequent in hedges	Abundant within hedgerows	Abundant across site in hedgerows and trees- some individuals singing
Blue tit	<i>Cyanistes caeruleus</i>	Green	Abundant in hedgerows across site	Abundant in hedgerows, often in small groups foraging	Abundant across site in hedgerows and trees- some individuals singing
Long-tailed tit	<i>Aegithalos caudatus</i>	Green	Group of five within trees next to Spa Farm	One pair seen along Bishopton Road	Two birds seen along canal and in north-west corner of site, using hedgerows
Magpie	<i>Pica pica</i>	Green	Few individuals within fields and trees	Few individuals within trees	One in northern tree belt near canal
Jackdaw	<i>Corvus monedula</i>	Green	Flyover species, small group present in off-site trees near canal	Mostly flyover with a few individuals using trees near Spa Farm	Small flocks in trees close to the canal. Flyover also
Rook	<i>Corvus frugilevus</i>	Green	-	-	One foraging on farmland in F2
Carrion Crow	<i>Corvus corone</i>	Green	Pairs present in mature trees near canal	Two birds within hedgerow trees. Flyover	One bird seen to fly over the site
Starling	<i>Sturnus vulgaris</i>	Red	Flyover in small numbers	One bird flyover. Others singing on houses along Bishopton Lane	-(present on houses along Bishopton Lane)
House sparrow	<i>Passer domesticus</i>	Red	Few individuals in hedgerows- mostly heard in gardens	Frequent in hedgerows, particularly along Bishopton Lane	Small flocks of c.5 birds present within F4

Chaffinch	<i>Fringilla coelebs</i>	Green	Occasional within trees	Several individuals within hedgerows, and within small groups near Spa Farm	Five birds seen within northern and southern hedgerows, including pairs. Infrequent flyover
Goldfinch	<i>Carduelis carduelis</i>	Green	Several flocks in hedgerow trees along Bishopton Lane and Spa Farm, and common flyover	Some individuals singing in mature trees near canal, and near Spa Farm. Mostly flyover	Two within mature trees at canal and c.5 in H6a. Frequent flyover species. Some singing in houses on Bishopton Lane
Greenfinch	<i>Chloris chloris</i>	Green	Group of about five in trees next to Spa Farm	Scattered individuals across the site, and feeding on ground in small groups near Spa Farm	Occasional within hedgerows, particularly in south. One bird singing at Spa Farm.
Yellowhammer	<i>Emberiza citronella</i>	Red	-	Seven males foraging on ground at east end of F3 with redwings and another pair in H6. Two flew over western-most field calling.	One male singing in H6 (same song perch used as noted in breeding bird surveys). One also foraging on the ground next to the H4.
Total 38			23	27	30

Appendix J

Reptile Survey Results

Job Name
Job No.
Surveyor
Set-Up Date

Bishopton Lane, Stratford
 1957
 KK, KC, JCW
 09/04/2013
 86 refugia (81 mats, 5 onduline)

Date	Time	Temp	Weather	Slow worm				Common lizard				Grass snake				Other notes
				Adult Male (>230mm)	Adult Female (>230mm)	Imm	Newborn	Male	Female	Imm	Newborn	Male	Female	Imm	Newborn	
01/05/2013	10.30	13	cc=1, dry and sunny. Wind=0	0	0	0	0	0	0	0	0	0	0	0	0	No reptiles found
22/05/2013	0.42	11	cc=8, overcast and a bit cool, w=3	0	0	0	0	0	0	0	0	0	0	1	0	Under onduline near canal. Common shrew
31/05/2013	18:00	17	cc=3/8, w=2, sunny, dry	0	0	0	0	0	0	0	0	0	0	1	0	Under onduline near canal
03/06/2013	09:00	15	cc=0/8, w=1, sunny, dry	0	0	0	0	0	0	0	0	0	0	0	0	No reptiles found
18/06/2013	09:30	13	cc=7/8, w=1, dry	0	0	0	0	0	0	0	0	0	0	0	0	No reptiles found
14/08/2013	09:00	17	cc=5/8, sunny periods, no rain (dew), w=1	0	0	0	0	0	0	0	0	0	0	0	0	No reptiles found
12/09/2013	09:30	18	cc=8/8, w=1, cloudy but brightening to become hot and sunny by mid morning	0	0	0	0	0	0	0	0	0	0	1	0	In middle of field under mat