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GALLAGHER ESTATES

Wykham Park Farm

Great Crested Newt Survey Report

December 2015

your earth our world



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Wykham Park Farm

Great Crested Newt Survey Report 2015

December 2015

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CA10769-9.10 Ponds within 500m of the Site

SCALE

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Appendix 1: GCN Method Statement

1 INTRODUCTION

1.1 Terms of Reference

1.1.1 Wardell Armstrong LLP was instructed by Gallagher Estates to undertake updated amphibian monitoring surveys of suitable waterbodies within 500m of the proposed development of the site, known as Wykham Park Farm, Banbury, Oxfordshire (approximately 1.7 miles south of Banbury). The site is to be developed for residential purposes.

1.2 Site description

1.2.1 The site is an area of approximately 52.46Ha to the south of Easington ward, comprising mainly intensively managed agricultural land. To the north and east of the site are urban estates including a number of recreational and sporting grounds whilst land to the west and south of the site is dominated by agriculture or pasture fields. The site shares a section of its western border with Bloxham Road and the majority of its northern border with Salt Way track. A large section of the southern boundary runs to the south of a narrow fragment of broadleaved woodland with narrow portion of the site extending south to Wykham Lane. The eastern site boundary is a hedgerow that borders the west of the allotment gardens on Wykham Lane and runs north to connect with Salt Way.

1.2.2 There are no waterbodies located on the site although seven waterbodies have been identified within 500m of the site boundary.

1.3 Legislative Framework

1.3.1 All native amphibians receive some legal protection in Great Britain arising from the following legislation:

- Wildlife and Countryside Act 1981 (as amended) (in Great Britain).
- Nature Conservation (Scotland) Act 2004.
- Conservation of Habitats and Species Regulations 1994 (as amended) (in Scotland).
- Conservation of Habitats and Species (Amendment) Regulations 2012 (in England & Wales).

- 1.3.2 In England and Wales they are all listed on Schedule 5 of the 1981 act and the more threatened species (the great crested newt *Triturus cristatus*, natterjack toad *Epidalea calamita* and pool frog *Pelophylax lessonae*) are also listed on Schedule 2 of the 2012 Regulations, which designate them 'European Protected Species'.
- 1.3.3 The legislation effectively creates two levels of protection. The European Protected Species receive strict protection, making it an offence to capture, possess, disturb, kill, injure, or trade in individuals of these species. In addition it is an offence to damage or destroy the places they use for breeding or resting.
- 1.3.4 The remaining amphibian species (smooth newt *Lissotriton vulgaris*, palmate newt *Lissotriton helveticus*, common frog *Rana temporaria* and common toad *Bufo bufo*) are protected against unlicensed trade. The legislation applies to all life stages of these animals.
- 1.4 **Great Crested Newt Ecology**
- 1.4.1 Like all British amphibians, great crested newts rely on waterbodies (typically ponds, but also slow moving small water courses) for breeding but otherwise they spend much of their time on dry land. Great crested newts enter a period of low activity as temperatures fall to below 5°C. This generally begins in late September and by the end of November most are dormant for much of the time. Newts seek refuge over winter in sites similar to those sought during the day such as an underground crevice or crack, a void in a tree stump or bank or under refugia such as piles of rock or dead wood.
- 1.4.2 Newts migrate to breeding ponds in spring, and sometimes as early as the first frost free days, at the end of January. The majority of great crested newts reach the breeding ponds by mid-March. The peak courtship period is between mid-March and mid-May, after which adult newts will generally vacate the water body. Juveniles emerge from the water body from early August onwards, after metamorphosis is complete.
- 1.4.3 On land great crested newts engage in foraging, dispersing and resting. Foraging takes place mostly during hours of darkness over a range of habitats that support

invertebrate species. Movement at night may reduce the risk of predation and desiccation.

1.4.4 Whilst on land, outside the over wintering period, newts may require refuges from extremes of weather (i.e. high temperatures and dry periods) and may rest in areas of dense vegetation, under refuges or underground.

1.5 **Summary of Impact of development based on 2013 GCN Survey Results and Proposed Mitigation Measures**

1.5.1 Amphibian surveys were undertaken in 2013 to inform the Environmental Statement which accompanied an outline planning application (ref: 14/01932/OUT) to Cherwell District Council for the proposed residential development.

1.5.2 No waterbodies are located within Site. Six waterbodies were identified within 500m of the proposed built footprint of the development Site. A reservoir is also located within 500m of the south-eastern corner Site boundary (refer to drawing CA10769-9.10 – Ponds Within 500m of the Site).

1.5.3 The habitats on Site potentially provide terrestrial habitat for amphibians including GCN, however the most valuable habitats for amphibians would be the woodland and hedgerows within the Site. Therefore, the hedgerows and woodland habitats within the Site were assessed in 2013 as being of neighbourhood value for amphibians including for GCN.

1.5.4 The results in 2013 indicated that 'medium' sized populations of GCNs were present in Pond P1 and Pond P5. The suitability of Pond P6 for GCN and the presence/ likely absence of GCN could not be confirmed for Pond P6 due to access restrictions. The red line site boundary was amended after completion of the 2013 suite of amphibian surveys. Following the amendment, the reservoir P7, fell within 500m of the site boundary but no results could be collected for this waterbody.

1.5.5 Smooth newts, common frog and fish were observed in Pond P1. No amphibians were observed in Ponds P2, P3 and P4. Smooth and palmate newts, common frog were observed in Pond P5.

- 1.5.6 The local planning authority has a responsibility to consider the “Three Tests” under the Conservation of Habitats and Species (Amendment) Regulations 2012 when determining a planning application where there is a potential for a European Protected Species (EPS) to be affected. The first two tests relate to the need for the development and the existence of alternatives. The third test (under Regulation 53 (9)(b) of the Conservation of Habitats and Species (Amendment) Regulations 2012) considers whether the Proposed Development will result in significant impacts on the favourable conservation status of a European Protected Species. In order to do this, if an EPS is present, it must be demonstrated that adequate compensation and/or mitigation can be put in place as part of the development so that the conservation status of the species is maintained.
- 1.5.7 The Proposed Development on Site is considered to have two main potential impacts on GCN. These are loss of potential terrestrial habitat and harm/disturbance to individual GCN during Site clearance works.
- 1.5.8 The Proposed Development would result in the permanent loss of arable land from the Site and is the main habitat present on Site within 500m of Ponds P1, P5 and P6 and the reservoir. If any GCN populations should be present at P6 or the reservoir, it was considered extremely unlikely that any GCN using these waterbodies, in addition to GCN using Ponds P1 and P5, would forage within the arable fields in significant numbers. Therefore it was considered in 2013 that there will be no significant adverse impact on GCNs as a result of the loss of poor quality terrestrial habitat (arable fields).
- 1.5.9 The woodland habitat (semi-natural broad-leaved woodland) and the majority of the hedgerows are being retained as part of the development. It is considered that the small loss of hedgerow habitat (14% of the total hedgerows on Site) to the development will have negligible impacts on GCN which are present in the off-site ponds as the majority of the suitable habitat within the Site is being retained and more suitable terrestrial habitats are currently present in the vicinity of the ponds and hedgerow habitats also occur in the surrounding areas.
- 1.5.10 Individual GCN could potentially be harmed /disturbed if present when site clearance works are being undertaken. It was considered in 2013 extremely unlikely that any GCN from Pond P1 and the Reservoir will be present within the parts of the Site that

fall within 500m of these waterbodies. In relation to Pond P5, the only part of the Site to fall within 500m of these ponds would be a short section of the southern boundary which is being retained. The risk of harm and disturbance to any GCN which may be present in Ponds P1 – P5 and the reservoir was considered to be low. It was considered that the impacts of harm and disturbance on individual GCN, from Ponds P1, P5 and any, if present in the reservoir, would be negligible and thus the site clearance operations were considered unlikely to affect the favourable conservation status of GCN populations in the local area. As such the third test would be passed and therefore the implementation of mitigation measures under a disturbance licence from Natural England under the Conservation of Habitats and Species (Amendment) Regulations 2012 would not be required.

- 1.5.11 As Pond P6 is located closer to the Site, if GCN are present in this pond, the likelihood of GCN being present in the Site is greater than for Ponds P1 and P5. However, given the factors stated above, it is unlikely that a significant proportion of any GCN population based at Pond P6 would be present in the hedgerows in the parts of the Site that fall within 500m of Pond P6. The hedgerows in these parts of the Site are being retained, however there will be significant ground disturbance within close proximity to these habitats in addition to a break being introduced into one hedgerow.
- 1.5.12 It was therefore considered that in addition to some limited habitat disturbance, a small number of individual GCNs could potentially be harmed / disturbed, if a population is present in Pond P6. This would represent a minor adverse impact on GCN populations in the local area. The potential loss of a few individual GCNs during site clearance operations was considered unlikely to affect the overall favourable conservation status of GCN populations in the local area in 2013.
- 1.5.13 As the survey has identified the presence of GCNs in Ponds P1 and P5, the habitat areas were inputted into Natural England's Rapid Risk Assessment Tool to determine if a European Protected Species Development licence was required. If the Rapid Risk Assessment finds the risks to be 'Green - offence highly unlikely' or 'Amber – offence is likely', it may be possible to undertake works within the Site using Reasonable Avoidance Measures which would negate the need for a licence.

- 1.5.14 The Rapid Risk Assessment Tool suggested that for Ponds P1 and P6 an offence is 'amber - likely' and for Pond 5 and the Reservoir (P7) an offence is 'green - highly unlikely,' provided that no GCNs are harmed as a result of the works.
- 1.5.15 Of the land which falls within 500m of Pond P5, only the southern hedgerow was considered suitable for GCNs and as this is being retained the risk of harm to GCN is likely to be extremely low and therefore a licence application and mitigation measures in connection with Pond P5 was not considered necessary in 2013.
- 1.5.16 Of the land which falls within 500m of the reservoir only the hedgerows are considered suitable for GCNs and as these are being retained the risk of harm to GCN is likely to be extremely low and therefore a licence application and mitigation measures in connection with the Reservoir was not considered necessary. As Reasonable Avoidance Measure (RAMs) were proposed to be undertaken in relation to land around pond P6 and the implementation of these will decrease the risk of harm to any GCN which may have dispersed from the reservoir.
- 1.5.17 For Ponds P1 and P6 the risk of an offence being committed was considered 'amber - likely'. Natural England recommends in these cases that RAMs should be employed during site clearance works (including archaeological investigation works), construction and landscaping works to decrease the risk to GCN. If the risk to GCN can be reduced through implementing RAMs then a licence will not be required.
- 1.5.18 A draft method statement for employing RAMS during any further future archaeological investigations and construction/landscaping works was attached to the Environmental Statement.

1.6 **Scope of Report**

- 1.6.1 The purpose of this report is to detail the methodology and results of the 2015 amphibian monitoring surveys assessing the presence and where applicable the population of amphibians using the waterbody and detail amendments to mitigation requirements, if necessary.

2 SURVEY METHODOLOGY

2.1 Field Survey

- 2.1.1 Initial amphibian surveys were undertaken in 2013. A site walkover was undertaken in April 2015, to assess the current conditions of the waterbodies to be surveyed as part of this year's monitoring. The reference and location of each is shown on drawing number CA10769-9.10 (Ponds Within 500m of the Site).
- 2.1.2 The principal guidance for undertaking great crested newt surveys is provided in the English Nature document 'Great crested newt mitigation guidelines' (August 2001). Further guidance on survey effort is also provided in the Method Statement Template for a Natural England disturbance licence application introduced in January 2008 (revised in August 2012).
- 2.1.3 The survey guidance recommends that for a project which involves permanent disturbance of habitats, such as mixed-use development, any pond within 500m of the area affected by the works should be the subject of a presence / likely absence survey for GCN. Where a pond is within 100m of the area affected by the works and GCN are found during the presence / likely absence survey, additional survey effort is required for the purpose of an assessment of the population size class.
- 2.1.4 The guidelines recommend that up to four visits should be undertaken in order to determine presence / likely absence of great crested newts under a survey licence from Natural England.
- 2.1.5 If GCN presence was confirmed, then two additional survey visits were undertaken (giving a total of 6), in order to carry out a great crested newt population size class assessment.
- 2.1.6 These surveys need to be undertaken between the months of mid-March and mid-June, with at least two (for presence / likely absence) or three (for population size class) of these surveys undertaken between mid-April to mid-May, although these periods may be extended, depending on the prevailing weather conditions.

2.1.7 Three survey methods are recommended in the guidelines: torchlight inspections after dusk, overnight “bottle-trapping” and egg searching. All three survey methods were employed where appropriate and safe to do so.

Torchlight Survey

2.1.8 1 million candlepower CluLite torches were used to scan the waterbodies after sunset. Accessible margins were walked slowly and any amphibians were recorded.

Bottle Trap Survey

2.1.9 Bottle trap construction and placement was undertaken using guidelines outlined by Gent & Gibson (2003) and following the protocol described by Griffiths et al. (1996). At each pond a maximum of 30 sampling points were established at 2m intervals around accessible areas of shoreline. One trap was placed at each sampling point, enabling newt density to be calculated as the number of newts captured per 2m. Guidelines recommend that traps should be set at dusk and checked between 0600 and 1100 hours the following morning. Any captured newts were recorded and released where they were found.

Egg Searches

2.1.10 Egg searches were conducted during daytime visits to each waterbody and, where appropriate, at night under torchlight. Torchlight encounters of individual newts laying eggs were also noted. Search effort was based on submerged or floating vegetation around the waterbody margins.

Survey Dates

2.1.11 Surveys were carried out on the following dates, during fine and dry weather conditions with overnight low temperatures of above 5°C:

- Survey visit 1 – 15th/16th April;
- Survey visit 2 – 29th/30th April;
- Survey visit 3 – 12th/13th May;
- Survey visit 4 – 19th/20th May;
- Survey Visit 5 – 9th/10th June;
- Survey visit 6 – 16th/17th June;

Habitat Suitability Index

2.1.12 A great crested newt Habitat Suitability Index (HSI) was also calculated for each waterbody surveyed, the scoring system evaluates the suitability of the habitat quality and quantity for great crested newts however the HSI is not a substitute for surveys. The HSI score is now required as part of the Natural England disturbance licensing system for each water body that would be subject to activities likely to result in adverse impacts to a local GCN population. The HSI is a numerical index between 0 and 1 (with 1 being optimal habitat) and uses ten suitability indices, all of which are factors thought to affect GCN but can only be calculated for still waterbodies and not moving watercourses. The HSI is a numerical index, between 1 and 0 and can be broken down into:

- <0.5 = poor
- 0.5-0.59 = below average
- 0.6-0.69 = average
- 0.7-0.79 = good
- > 0.8 = excellent

2.2 Survey Limitations

2.2.1 Pond 1 – During this survey period the turbidity was constantly scored as moderate-high, obscuring potential sightings of GCN and potentially resulting in an under-recording of the local population.

2.2.2 Pond 2 – The survey effort for this waterbody was limited to a single torch survey during the first visit. Bottle trapping was unable to be undertaken as the waterbody was too shallow during visit one and dry thereafter.

2.2.3 Pond 3 – Only a single bottle trapping effort was suitable at this waterbody during visit one due to the subsequent low water levels. Torch surveys were unsuitable due to the high turbidity.

2.2.4 Pond 4 – The survey effort for this waterbody was limited to a single torch survey during the first visit. Bottle trapping was unable to be undertaken as the waterbody was too shallow during visit one and dry thereafter.

- 2.2.5 Pond 5 – This waterbody was lined and so unable to bottle trap. Torching however was undertaken. The torching was restricted by almost complete vegetation coverage in addition to very high levels of turbidity during visits two and three and moderate-high turbidity thereafter.
- 2.2.6 Pond 6 - Access was not granted to this waterbody and so amphibian surveys could not be undertaken.
- 2.2.7 Pond 7 – Due to vegetation and waterside access, the eastern and north eastern perimeter was unable to be surveyed.

3 RESULTS AND EVALUATION

3.1 A review of OS data identified seven waterbodies within 500m of the site. The location of these waterbodies is shown on Drawing Number CA10769-9.10. A brief description and HSI score of these water bodies is provided in Table 1 below.

Pond / Stream Reference	Pond Access and Status	HSI Score/Pond Suitability
P1	Surrounded by trees and scrub	0.66 – Average
P2	Very small pond heavily shaded	0.28 – Poor
P3	Small pond at corner of field boundary with no aquatic vegetation – connected to hedges/trees	0.49 – Poor
P4	Small woodland pond feeding into an underground watercourse	0.41 – Poor
P5	School pond surrounded by lawns and amenity planting but nearby fields	0.79 – Good
P6	No Access Available	No score assigned
P7 - Reservoir	(Scoped in August 2014) – Reservoir with marginal vegetation along eastern side	0.75 - Good

3.2 Six of the Ponds identified were subject to further surveys for GCN, with Table 2 showing peak adult GCN count for the current survey period and previous surveys undertaken in 2013.

Pond Number	GCNs Present	Population Size Class (Peak Count) 2013	Population Size Class (Peak Count) 2015
Pond P1	Y	Medium (34)	Medium (12)
Pond P2	N	-	-

Pond P3	N	-	-
Pond P4	N	-	-
Pond P5	Y Eggs found	Medium (30)	Medium (12)
Pond P6	Not surveyed	-	-
Pond P7 - Reservoir	N	Not Surveyed	-

3.3 Discussion of results

3.3.1 Two of the six waterbodies (P1 & P5) surveyed in 2015 were found to contain medium populations of GCN. The presence of GCN is consistent with the previous survey period in 2013 where medium populations were found in the same waterbodies and absent elsewhere.

3.3.2 HSI scores for the waterbodies generally correlate with the presence of newts at this site. Ponds 2, 3 and 4 were recorded as having a poor HSI and an absence of GCN whereas ponds 1 and 5 were considered to be average/good respectively and contained GCN populations. The reservoir was also considered a good habitat, however no GCN were recorded with the presence of crayfish potentially deterring breeding newts.

3.3.3 Although medium populations were recorded at ponds 1 and 5, they are at the lower limit to be defined as a medium population with a decrease in recording of 22 and 18 adult GCNs respectively. Due to survey constraints (see section 2.2) the actual adult numbers observed are likely to be lower than the actual numbers present.

3.3.4 For pond 1 the turbidity was noted as '3' (where 0 = very clear and 5= turbid) when the peak count of the 2015 survey was recorded whereas the turbidity was lower (2) when the peak count was recorded in 2013. Additionally, the peak count of the 2013 survey was achieved during a survey where Wardell Armstrong ecologists surveyed in conjunction with another ecologist. The increased visibility along with the extra manpower during the 2013 survey could help to explain the greater population count in 2013 than 2015.

3.3.5 The peak count for pond 5 was obtained during the first survey visit. Following this,

pond 5 a turbidity score of 5 was recorded during visit 2 and a turbidity value of 3 thereafter. Additionally, the vegetation was recorded as 4/5 (where cover ranges from a score of 0 to 5 (densely vegetated)) during visits 2 through to 6. This reduction in visibility is likely to be a major factor in the recording of a lower population in 2015 than 2013.

- 3.3.6 The GCN populations at ponds 1 and 5 are unlikely to function as a metapopulation (i.e. each population in a patch has its own local dynamics, which are not dependent on the state of the other patches) due to the distance between these waterbodies.

4 POTENTIAL IMPACTS AND MITIGATION

- 4.1.1 The terrestrial habitats on site, notably the hedgerows and woodland have the potential to be used by amphibians as resting places and for foraging and overwintering. To a lesser extent the arable and grazed improved grassland habitat could be used by amphibians.

- 4.1.2 It was concluded in 2013 that the Proposed Development on Site is considered to have two main potential impacts on GCN. These are loss of potential terrestrial habitat and harm/disturbance to individual GCN during Site clearance works.

- 4.1.3 The Proposed Development will result in the permanent loss of arable land from the Site and is the main habitat present on Site within 500m of Ponds P1, P5 and P6. If a GCN population is present at P6 it is considered extremely unlikely that any GCN using these waterbodies, in addition to GCN using Ponds P1 and P5, would forage within the arable fields in significant numbers. Therefore it is considered that in 2015 the impact will remain the same as identified in 2013; i.e. there will be no significant adverse impact on GCNs as a result of the loss of poor quality terrestrial habitat (arable fields).

- 4.1.4 It also considered that the small loss of hedgerow habitat (14% of the total hedgerows on Site) to the development will have negligible impacts on GCN which are present in the off-site ponds.

- 4.1.5 The risk of harm and disturbance to any GCN which may be present in Ponds P1 – P5 remains low. It is therefore considered that the impacts of harm and disturbance on individual GCN, from Ponds P1 and P5 will be negligible and thus the site clearance

operations are considered unlikely to affect the favourable conservation status of GCN populations in the local area. As such the third test would be passed and therefore the implementation of mitigation measures under a disturbance licence from Natural England under the Conservation of Habitats and Species (Amendment) Regulations 2012 would not be required.

4.1.6 As access could not be obtained to Pond P6 in 2015 it remains that a small number of individual GCNs could potentially be harmed / disturbed, if a population is present in Pond P6. This would represent a minor adverse impact on GCN populations in the local area. The potential loss of a few individual GCNs during site clearance operations is considered unlikely to affect the overall favourable conservation status of GCN populations in the local area in 2015.

4.1.7 The Rapid Risk Assessment Tool suggested that for Ponds P1 and P6 an offence is 'amber - likely' and for Pond 5 is 'green - highly unlikely,' provided that no GCNs are harmed as a result of the works.

4.1.8 Of the land which falls within 500m of Pond P5, only the southern hedgerow was considered suitable for GCNs and as this is being retained the risk of harm to GCN is likely to be extremely low and therefore it remains in 2015 that a licence application and mitigation measures in connection with Pond P5 is not considered necessary.

4.1.9 For Ponds P1 and P6 the risk of an offence being committed was considered 'amber - likely'. Natural England recommends in these cases that RAMs should be employed during site clearance works (including archaeological investigation works), construction and landscaping works to decrease the risk to GCN. If the risk to GCN can be reduced through implementing RAMs then a licence will not be required.

4.2 **Summary of Mitigation Measures**

4.2.1 The 2015 amphibian surveys have concluded that the presence of GCN is consistent with the previous survey period in 2013 where medium populations were found in the same waterbodies and absent elsewhere. The following mitigation measures identified in the Environmental Statement remain valid for the proposed development in 2015.

- 4.2.2 A draft method statement for employing RAMS during any further future archaeological investigations and construction/landscaping works was attached to the Environmental Statement as Appendix 9.10 and it is considered that the measures to be implemented for Ponds P1 and P6 and outlined within this draft appendix (attached as Appendix 1 to this report) remain valid.
- 4.2.3 A tool box talk and method statement will need be given to contractors to notify them of the potential presence of a protected species, the methods employed to protect GCN and what to do if one is discovered.
- 4.2.4 If GCN are encountered during the archaeological, site clearance or construction works, works will need to cease and advice sought from Natural England.

5 REFERENCES

- 5.1.1 Gent A. H. & Gibson S. D. (2003). Herpetofauna Workers Manual, Peterborough, Joint Nature Conservation Committee.
- 5.1.2 Griffiths R. A., Raper S. J. & Brady L. D. (1996). Evaluation of a standard method for surveying common frogs *Rana temporaria* and newts *Triturus cristatus*, *T. helveticus* and *T. vulgaris*. JNCC Report no. 259. Peterborough, Joint Nature Conservation Committee.
- 5.1.3 Natural England (formally, English Nature), '*Great Crested Newt Mitigation Guidelines*' (2001). Natural England, Peterborough.

Appendices

Appendix 1

GCN Method Statement (Appendix 9.10 from ES)

Appendix 9.10 – Great Crested Newt - Method Statement

Introduction

1. Great crested newts (GCN) rely on waterbodies (typically ponds, but also slow moving small water courses) for breeding but otherwise they spend much of their time on dry land. They may enter a period of low activity as temperatures fall below 5°C. This generally begins in late September and by the end of November most amphibians are dormant for much of the time. Amphibians seek refuge over winter in sites similar to those sought during the day such as an underground crevice or crack, a void in a tree stump or bank or under refugia such as piles of rock or dead wood. Adult GCN migrate to breeding ponds in spring, and sometimes as early as the first frost free days, at the end of January.
2. On land amphibians engage in foraging, dispersing and resting. Foraging takes place mostly during hours of darkness over a range of habitats that support invertebrate species. Movement at night may reduce the risk of predation and desiccation.
3. Whilst on land, outside the over-wintering period, GCNs may require refuges from extremes of weather (i.e. high temperatures and dry periods) and may rest in areas of dense vegetation, under refuges or underground.
4. During the GCN surveys undertaken in May/ June 2013 'medium' sized populations of GCNs were found to be present within two ponds (Ponds P1 and P5) which are located within 500m of the site. Ordnance Survey Mapping indicates a third pond (Pond P6) within 500m of the site, but access to survey this waterbody was not granted. For the purposes of the impact assessment it was assumed that a GCN population is also present within Pond P6. In July 2014 the planning application boundary was amended to include a further parcel of land extending southwards along the eastern boundary to Wykham Lane. Whilst this brings another waterbody (P7) within 500m of the site boundary (P7 is located approximately 320m to the south of the site), it is located beyond 500m of the proposed foot-print of the on-site built development parcels. This waterbody is annotated as a reservoir on Ordnance Survey mapping and which are generally considered to have low potential to support GCNs. It is also located beyond 500m of other ponds surveyed connected within this assessment which were found to contain GCN.
5. There is a risk that a low number of GCNs could be disturbed or harmed by site

clearance works and construction activities undertaken in the hedgerows and associated field margin habitats. This risk is increased if these works are undertaken during the amphibian hibernation period as GCNs could potentially hibernate in the hedgerows.

6. Natural England's 'Rapid Risk Assessment' tool suggests that site clearance works on the parts of the site within 500m of Ponds P1 and P6 is 'likely' to result in an offence and 'highly unlikely' to result in an offence for the parts of the site within Pond P5 and P7 (reservoir) provided that no GCNs are harmed as a result of the works.
7. Of the part of the site which falls within 500m of Pond P5, only the southern hedgerow is considered suitable for GCNs and as this is being retained the risk of harm to GCN is likely to be extremely low and therefore no licence application in connection with Pond P5 is required. For parts of the site which falls within 500m of the reservoir (P7), 1.06 ha of arable land and 64m of hedgerow within the application boundary lies within 250 - 500m of the site and within this area of the site no built development footprint is proposed and the hedgerow will be retained. Provided that not GCN are a risk of harm from the site development , through the implementation of RAMs, then the likelihood of committing an offence is reduced and a licence from Natural England is not considered necessary.
8. For the parts of the site within 500m of Ponds P1 and P6 the risk of an offence being committed is considered to be 'likely'. It may be possible to reduce this risk by implementing what Natural England call 'Reasonable Avoidance Measures' which would be employed during site clearance works (including archaeological investigation works) and construction and landscaping works to decrease the risk of harm to GCN. Provided that no GCN are at risk of harm from the site development, through the implementation of RAMs, then likelihood of committing an offence is reduced and a licence from Natural England is not considered necessary.

Method Statement

9. The following Reasonable Avoidance Measures (RAMs) will be implemented prior to and/or during (A) archaeological investigation works and (B) site clearance / construction works:

(A) Archaeological Investigation Works

For operations such as archaeological investigations, the potential for disturbance to habitats will be temporary with habitats being reinstated soon after the investigations are complete and as such the following Reasonable Avoidance Measures will be

implemented ***within 250m from pond P1 and pond P6:***

- In order to prevent damage to retained hedgerows and trees, excavations near these habitats will be undertaken in accordance with BS5837:2012 – *Trees in relation to construction*;
- The required tree root protection zones along retained hedgerows will be clearly marked to prevent excavations from encroaching into this habitat;
- A 10m buffer along the hedgerows within 250m of Ponds P1 and P6 will be clearly marked. Where possible, the archaeological investigations should be designed to avoid excavations in this area in the first instance;
- Archaeological excavation works **will not** be undertaken within 10m of the hedgerows between 1st November and 28th February or outside these times when night time temperatures are consistently below 5 degrees Celsius i.e. when GCN can be expected to be hibernating / activity expected to be low or negligible;
- Archaeological excavation works which need to be undertaken within 10m of the hedgerows will only be able to proceed between March and October when night-time temperatures are consistently above 5°C. An Ecologist will be required to hand-search and undertake destructive searches of the proposed excavation area where it falls within the 10m buffer area. An Ecologist will then need to be present to check the edges of the backfill before it is used to infill the excavation if the excavations are left open overnight;
- If taller grassland vegetation and scrub is present in areas to be disturbed by the archaeological excavations, the vegetation will be cut to 150mm and a short sward maintained prior to any archaeological investigations works, in order to increase the area's unsuitability for GCN;
- The duration of time that the excavations will be left open will be kept to a minimum (as risk of harm to GCN is reduced the shorter the duration of the works); and
- Wooden planks will be positioned within any open excavations to allow any animals (including GCN) to escape.

(B) Construction Works

The construction operations will occur over a long time period and habitat loss will be permanent and as such the following Reasonable Avoidance Measures will be implemented ***within 500m from Ponds P1 , P6 and the P7 (Reservoir)***

- In order to prevent damage to retained hedgerows and trees, excavations near these habitats will be undertaken in accordance with BS5837:2012 – *Trees in relation to construction*;
- The required tree root protection zones along retained hedgerows will be clearly marked to prevent excavations from encroaching into this habitat;
- Site clearance works within 10m of the hedgerows in addition to uprooting and removing sections of hedgerow **will not** be undertaken between 1st November and 28th February or outside these times when night time temperatures are consistently below 5 degrees Celsius i.e. when GCN can be expected to be hibernating / activity expected to be low or negligible;
- Prior to site clearance and hedgerow removal works, any tall grassland vegetation and scrub scheduled to be cleared within the field margins will be cut to 150mm and a short sward maintained prior to any construction works, in order to increase the area's unsuitability for GCN;
- An Ecologist will undertake a watching brief of site clearance works where they fall within 10m of a retained hedgerow. A watching brief will also be undertaken during any hedgerow removal works where the ground is to be disturbed. This will involve a hand-search of the habitats to be cleared followed by a destructive search as the topsoil is stripped. The works in these areas will only be undertaken between March and October when the night-time temperatures are consistently above 5°C;
- Materials which could potentially be used by amphibians as refuges and which need to be stock piled on site will either be sited more than 500m from Ponds P1 and P6, or if this is not practicable will be temporarily stock-piled within 500m, but will be stored above ground (e.g. on wooden pallets) and wrapped in a suitable membrane or stored in bags to prevent use by GCN as hibernacula;
- The length of the site clearance works will be kept to a minimum (risk of harm to GCN is reduced the shorter the duration of the works);
- Wooden planks will be positioned within any open excavations to allow any animals (including GCN) to escape; and
- The earth within the areas of the site cleared for construction and landscaping works will be compacted to make these areas more unsuitable for GCN.

Time constraints

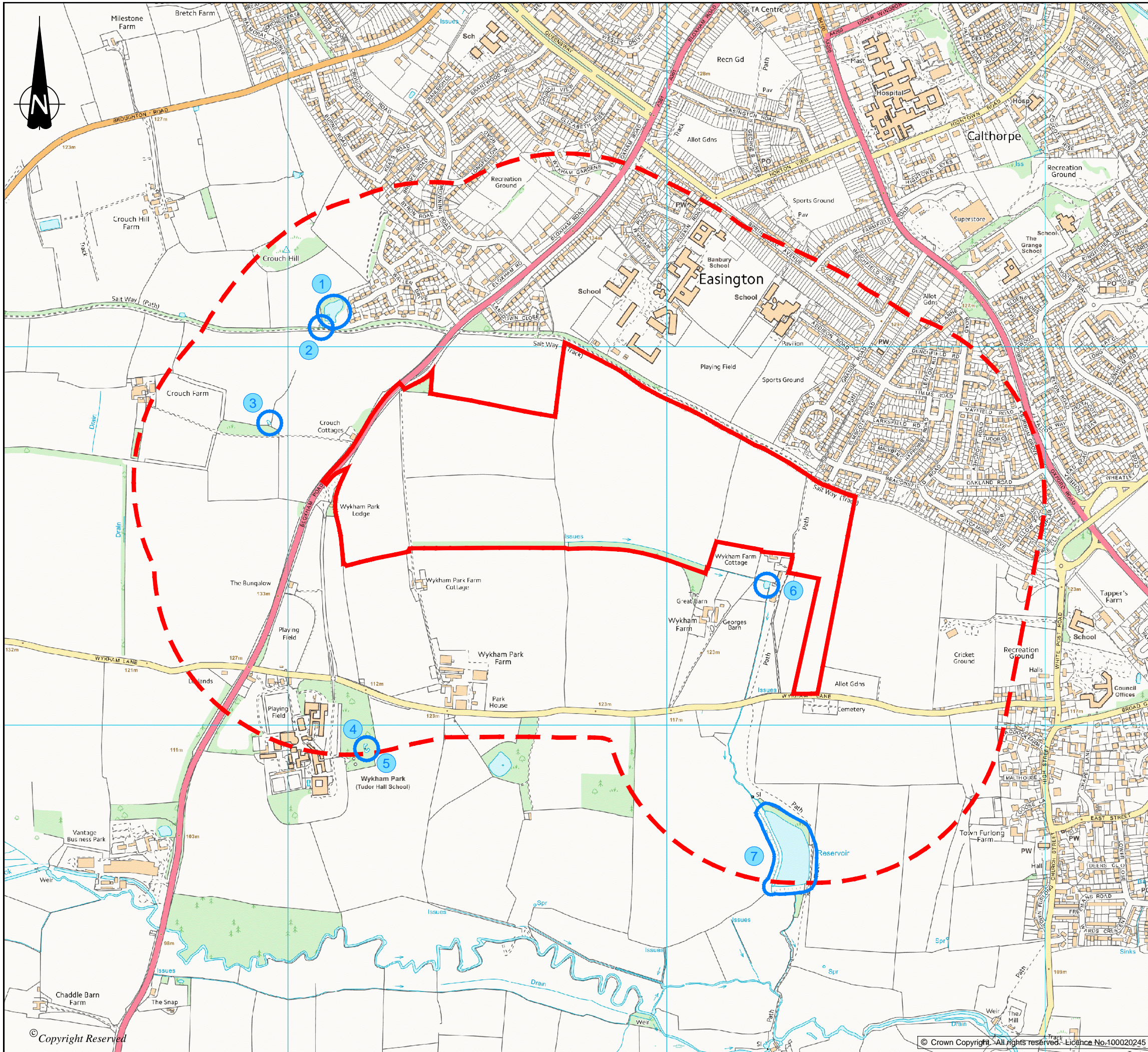
10. The following activities will be constrained by the GCN overwintering season (November to January inclusive) and bird breeding season (March to August inclusive).

Table 1: Timing of Activities												
Activity	Month											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Hedgerow – cutting only. No ground disturbance.	■	■							■	■	■	■
Hedgerow removal (after cutting)– uprooting hedgerow			■	■	■	■	■	■	■	■		
Hedgerow cutting & uprooting (if done together)									■	■		
Site clearance works*			■	■	■	■	■	■	■	■		

* within 10m of retained hedgerows and in the presence of an ecologist

■ - Period in which activity can be undertaken

Drawings



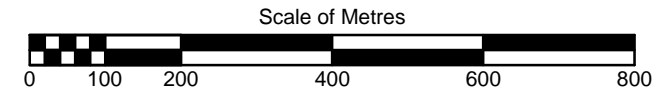
DO NOT SCALE FROM THIS DRAWING

REFERENCE

Site boundary _____

500m radius to site boundary _____

Pond reference number _____



A	First Issue	16/10/14	RJH	AC	JLH
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REVISION	DETAILS	DATE	DRAWN	CHK'D	APP'D
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CLIENT **GALLAGHER ESTATES**

PROJECT **WYKHAM PARK FARM**

DRAWING TITLE **PONDS WITHIN 500m OF THE SITE**

DRG No. CA10769-9.10	SCALE 1:10,000 @ A3	DATE 29/05/14
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DRAWN BY RJH	CHECKED BY AC	APPROVED BY JLH
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