

WOLD ECOLOGY LTD.

Chris Toohie
2 Redwood Gardens, Drifffield,
East Riding of Yorkshire. YO25 6XA
01377 200242



Richard Baines
5 Coastguard Cottages, Flamborough,
East Riding of Yorkshire. YO15 1AW
01262 850937

www.woldecology.co.uk

RECEIVED

19 May 2015

BUSINESS SUPPORT

Land west of Bishop's Close, Cawood

Great Crested Newt Assessment

	Staff Member	Position
Surveyor.	Chris Toohie M Sc., MCIEEM	Ecologist.
Report prepared by.	Chris Toohie M Sc., MCIEEM	Ecologist.
Authorised by.	Chris Toohie M Sc., MCIEEM	
Notes.	This report contains sensitive information concerning protected species and caution should be exercised when copying and distributing to third parties.	

Table of Contents.

1.0	Introduction	3
2.0	Survey and Site Assessment	5
3.0	Results	6
4.0	Impact Assessment	10
5.0	Mitigation	12
6.0	Method statement	14
7.0	Bibliography	21
8.0	Appendices	22

1.0 INTRODUCTION

- 1.1 In March 2015, Wold Ecology was commissioned by Mr D. Pulleyn to undertake a great crested newt assessment on land to the west of Bishop's Close, Cawood (national grid reference SE 56855 37514) in North Yorkshire (see Figure 1).
- 1.2 The habitats within the Application Site comprise improved pasture, scattered trees, remnant hedgerows, standing water (ephemeral) and amenity grassland situated adjacent to residential properties.
- 1.3 The proposed development involves partial site clearance and outline planning permission with all matters reserved for the erection of a residential development, creation of access road and associated public open space.
- 1.4 A great crested newt assessment is a requirement of the local authority planning department, as part of the planning application process. This is specified in the following legislation:
- Department for Communities & Local Government Circular 06/2005 Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System.
 - National Planning Policy Framework (NPPF): Biodiversity and Geological Conservation – national planning policy relation to biodiversity. NPPF Biodiversity and Geological Conservation gives further direction with respect to biodiversity conservation and land use change/development. NPPF states that not only should existing biodiversity be conserved but importantly that habitats supporting such species should be enhanced or restored where possible. The policies contained within NPPF may be material to decisions on individual planning applications.
- 1.5 A great crested newt assessment is also required to ensure compliance with the Conservation of Habitats and Species Regulations 2010, provision 41 states an offence is committed if a person:
- (a) Deliberately captures, injures or kills any wild animal of a European protected species (i.e. bats, great crested newts etc.),
 - (b) Deliberately disturbs wild animals of any such species,
 - (c) Deliberately takes or destroys the eggs of such an animal, or
 - (d) Damages or destroys a breeding site or resting place of such an animal.
- 1.6 Any development, management or other impacting works which would damage or destroy great crested newt habitat, or significantly disturb the animals themselves, would require a European Protected Species Development Licence from Natural England. Under such licences, which are project specific, great crested newt are often excluded or translocated from areas to be disturbed or developed, to ensure that none are killed or injured.
- 1.7 Legal Framework
- 1.7.1 The great crested newt is protected under European and British legislation. Under European legislation it is protected under EC Directive (92/43/EEC) 'The Conservation of Natural Habitats and of Wild Fauna and Flora', being listed under Annexes IIa and IVa. This is implemented in Britain under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) and is further protected under the Conservation of Habitats and Species

Regulations 2010. This prohibits the intentional killing of newts, the deliberate taking or destruction of eggs, damage or destruction of a breeding site or resting place, intentional/reckless damage to or obstruction of a place used for shelter or protection, possession of a great crested newt and any form of trade of great crested newts.

1.7.2 Under British legislation, the great crested newt is given full protection under section 9 of the Wildlife and Countryside Act 1981 (as amended). This Act transposes into UK law the Convention on the Conservation of European Wildlife and Natural Habitats (commonly referred to as the 'Bern Convention'). This prohibits the intentional killing, injuring or taking, possession or disturbance of great crested newts whilst occupying a place used for shelter or protection and the destruction of these places. Protection is given to all stages of life (e.g. adults, sub-adults, larvae, and ovae).

1.7.3 In combination the above legislation prohibit the following:

- Intentionally kill, injure or take a great crested newt;
- Possess or control any live or dead specimen or anything derived from a great crested newt;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt;
- Intentionally or recklessly disturb a great crested newt while it is occupying a structure or place which it uses for that purpose;
- Deliberately capture or kill a great crested newt;
- Deliberately disturb a great crested newt;
- Deliberately take or destroy eggs of a great crested newt;
- Damage or destroy a breeding site or resting place of a great crested newt.

1.7.4 The great crested newt is therefore described as 'fully protected'.

1.7.5 Great crested newt has also been identified in the UK Biodiversity Steering Group Report, Volume 2: Action Plan (UK BAP, 1995), as a priority species requiring conservation action and consequently, an Action Plan has been developed for the conservation of this species. The following are cited within the UK Action Plan as causing loss and decline:

- Loss of suitable breeding ponds caused by water table reduction, in-filling for development, farming, waste disposal, neglect or fish stocking and the degradation, loss and fragmentation of terrestrial habitats.
- Pollution and toxic effects of agrochemicals.

1.8 The assessment involved:

- Desktop study
- An assessment of the on-site potential for great crested newt and the likelihood of their presence.
- An assessment of whether great crested newts are a constraint to the development.
- The production of a non-technical summary of the legal implications behind great crested newt presence.
- Report the findings of the field survey work and identify a mitigation strategy and method statement.

2.0 SURVEY AND SITE ASSESSMENT

2.1 Objective of survey

2.1.2 In order to fulfil the brief, the site was visited and assessed on 6th March and 6th April 2015. This was to determine whether the habitats within the proposed development area was suitable for great crested newts. The work involved the following elements:

- An assessment of the on-site potential for great crested newts and the likelihood of their presence
- Desktop study including consultation with the Parish Council
- Field survey

2.2 Pre-existing information on great crested newts at the Application Site.

2.2.1 There is no great crested newt pre-existing survey information relating to the Application Site.

2.3 Field Survey Methodologies

2.3.1 Refuge search.

2.3.1.1 Amphibians can take refuge under logs, bark and stones whilst in terrestrial habitat. All available features within the Application Site were turned over to search for the presence of amphibians. This method is not an effective method of presence/absence; however, it can be used as a general indication of amphibians within an area.

2.3.2 The field surveys were conducted on 6th March and 6th April; by Chris Toohie MSc. MCIEEM who is a Natural England great crested newt license holder (2014-5990-CLS) with over 5 years of great crested newt survey experience. This experience includes bottle trapping, netting, egg searches, terrestrial refugia searches, terrestrial trapping, torchlight monitoring and trans locating great crested newts as part of a Natural England license.

3.0 RESULTS

3.1 Data Search

- 3.1.1 Great crested newt *Triturus cristatus* have been recorded in Cawood and within 500m of the Application Site (source: NEYEDC & NBN Gateway 2015).
- 3.1.2 Great crested newt is recorded at Cawood Ings Borrow Pit, Cawood Castle Garth Pond and Cawood Ings Lane; these are all within 2 km of the Application Site (source – NEYEDC 2015).
- 3.1.3 Cawood Castle Garth is located within 500m of the Application and is known to support great crested newts; the presence of which prevented the residential development of the site during the 1980's (source - <http://myweb.tiscali.co.uk/cawoodcastlegarth/naturalhistory.html>). There are 3 ponds within Cawood Castle Garth.

3.2 Field Surveys

- 3.2.1 The desktop study, map analysis and field surveys during March and April 2015 identified the following habitats within the proposed construction zone:
 - 3.2.2 Improved grassland
 - 3.2.2.1 The majority of the site comprises improved grassland which has previously been grazed by sheep and horses. The grassland is separated into two fenced paddocks however the composition of the grassland is similar in both areas. The grassland is dominated by perennial rye-grass *Lolium perenne* with timothy *Phleum pratense*, cock's-foot *Dactylis glomerata*, creeping bent *Agrostis stolonifera* and Yorkshire fog *Holcus lanatus* also present. The sward was less than 5cm in height at the time of the survey with little thatch observed. Forbs were rare within the grassland and restricted to white clover *Trifolium repens*, creeping buttercup *Ranunculus repens*, common mouse-ear *Cerastium fontanum* dandelion *Taraxacum agg* and nettle *Urtica dioica*. Daffodils *Narcissus sp* have been planted within the small paddock amongst the fruit trees.
 - 3.2.2.2 Some of this habitat will be lost as a result of the proposed development.
 - 3.2.3 Amenity grassland
 - 3.2.3.1 A small area of amenity grassland is situated to the east of the Application Site. The area is used for ball games and the grass is kept short, reducing its ecological value. The grass is dominated by perennial rye-grass with dandelion, daisy *Bellis perennis* and annual meadow-grass *Poa annua* also present within the sward. Other species present but restricted to the edges of the grassland were wood avens *Geum urbanum*, cleavers *Galium aparine* and broad-leaved dock *Rumex obtusifolius*.
 - 3.2.3.2 This habitat will be lost as a result of the proposed development.
 - 3.2.4 Defunct hedge
 - 3.2.4.1 A defunct hawthorn *Crataegus monogyna* and hazel *Corylus avellana* hedgerow is located adjacent to livestock fencing forming the boundary of the paddocks to the south. The understory comprises ruderal species and rough grass with occasional common

reed *Phragmites australis* also present. The remnant hedge is approximately 2m high and 1.5m wide with large gaps (>10m) present along the hedge line. Along the northern boundary of the Application Site and within the horse paddock, occasional hawthorns are all that remain of the hedgerow. They are approximately 1m high and appear to be kept short by browsing of livestock.

3.2.4.2 A public footpath is situated adjacent to the Application Site on the northern boundary. The defunct hedge to the north of this footpath is dominated by hawthorn and willow *Salix sp* which has grown out and is not being managed as a hedge.

3.2.4.3 Along the eastern boundary, the Application Site borders private gardens. Adjacent to the livestock fencing, some lengths of hawthorn dominated hedges are present forming the boundaries of the gardens. Some short stretches of these hedges have been managed and are intact.

3.2.4.4 None of this habitat will be lost as a result of the proposed development.

3.2.5 Standing water

3.2.5.1 During the March 2015 field survey, an infield pond (approximately 40m²) is was present within the large paddock (National Grid Reference: SE 56860 37545). No macrophytes were observed however submerged grasses were present within the pond providing potential egg laying medium for newts. Epiphytic algae growth was observed in the pond which suggests that may hold water during the spring and/or summer amphibian breeding season. No signs of poaching from livestock were observed.

3.2.5.2 However, this pond was dry on 6th April 2015 and was re assessed as a free draining depression that only temporarily held water during periods of heavy rain and would not hold water to support a viable amphibian population. The surrounding land is free draining which further suggests an ephemeral pool. The presence of perennial rye-grass *Lolium perenne* with timothy *Phleum pratense*, cock's-foot *Dactylis glomerata*, creeping bent *Agrostis stolonifera* and Yorkshire fog *Holcus lanatus* within the depression also suggests dry conditions throughout the majority of the year.

3.2.5.3 None of this ephemeral aquatic habitat will be lost as a result of the proposed development.

3.2.6 Tall ruderal vegetation

3.2.6.1 A small nettle patch is present within the eastern corner of the small paddock. Ruderal vegetation, again dominated by nettle, is also present along the hedge lines where the hedging has been lost, within the dry ditches and beneath the remaining hedges.

3.2.6.2 None of this habitat will be lost as a result of the proposed development.

3.2.7 Dry ditch

3.2.7.1 A shallow, dry ditch is present on the southern boundary where it runs for a short distance along the hedge line. Another shallow, dry ditch is present adjacent to the Application Site boundary to the north of the public footpath along the hedge line.

Ruderal vegetation and rough grass grow within the dry ditches.

3.2.7.2 None of this habitat will be lost as a result of the proposed development.

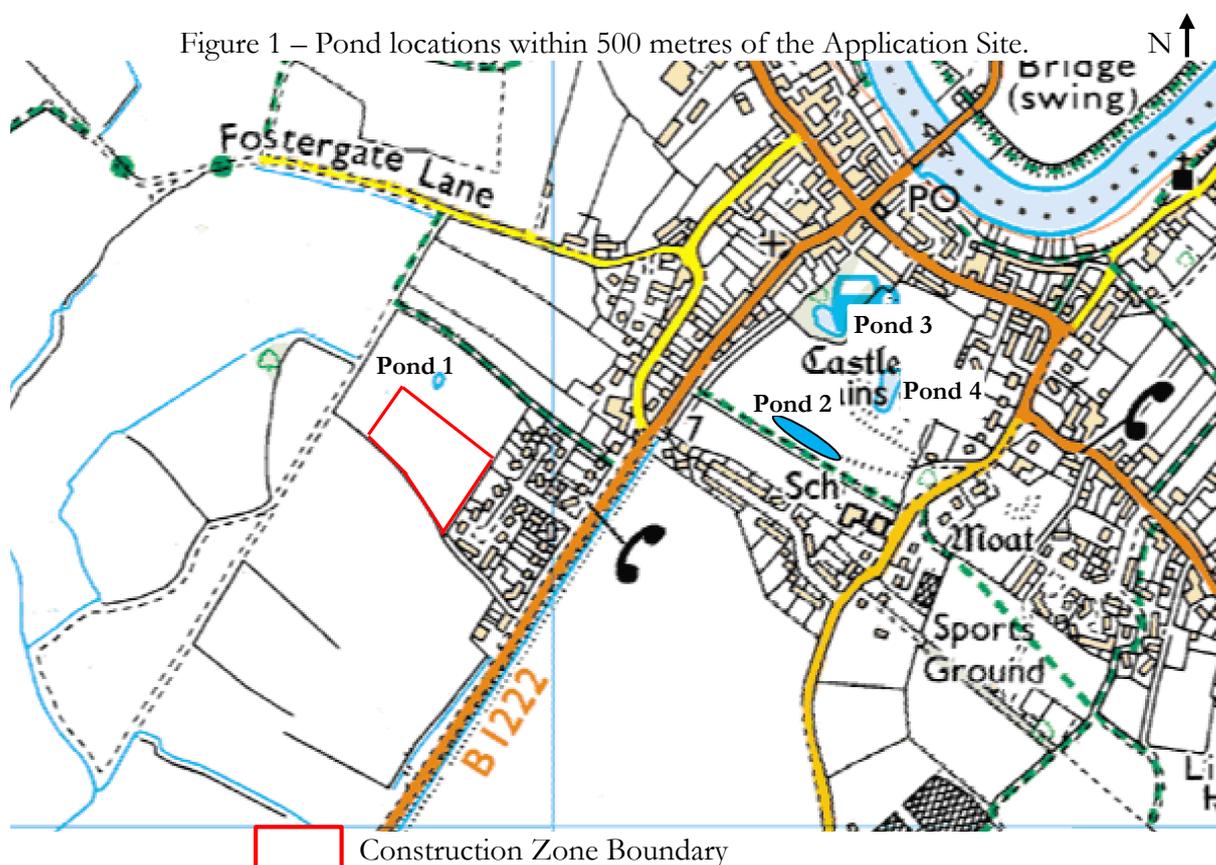
3.2.8 Buildings

3.2.8.1 Two garages are situated to the east of the play area and are single storey garages comprising corrugated cement fibre board roofs and cement fibre board walls on a concrete pad. *Cotoneaster* *Cotoneaster sp* and bramble *Rubus fruticosus agg* were also observed growing up the sides of the garages.

3.2.8.2 This habitat will be lost as a result of the proposed development.

3.3 Aquatic habitats within 500m of the Application Site

3.3.1 Four ponds were identified within 500 metres of the development site boundaries, the locations and number of ponds was identified in the field and through the use of aerial photographs and OS maps.



3.3.2 The distance between the proposed construction zone and the ponds located within 500m are detailed below:

Pond	Distance from proposed construction zone
1	No longer present (3.2.5.2)
2	340m
3	425m
4	460m

- 3.3.3 Ponds 3 and 4 are permanent ponds and permission was sought from the Parish Council to survey the ponds at Castle Garth (see Appendix 2). However, this was declined on 22nd April 2015. The Parish Council stating ‘Your request was discussed at the April Parish Council meeting when it was decided against allowing you to carry out a survey of the newts. The Castle Garth is an area of historical and scientific interest and it was felt that the purpose of the survey would oppose these principles’.
- 3.3.4 Pond 2 is a linear depression close to the southern boundary of Cawood Garth and whilst the depression held water during March 2015; water levels had significantly dropped during April. The botanical species present within the depression (primarily creeping buttercup *Ranunculus repens*) suggest that the depression does not hold water all year round. The pond was not included on any OS map viewed.
- 3.3.5 Consequently, the closest permanent aquatic habitat that supports great crested newts is pond 3, which is approximately 425m east of the proposed construction zone.
- 3.4 It is not always possible to demonstrate site absence from a scoping survey, but with the evidence collected from the field surveys and a desk top study, the likelihood of the presence of great crested newts in the construction zone is reduced. Key attributes to the low probability of great crested newts being present are:
- No permanent ponds are located within the construction zone
 - The closest permanent pond is located over 400m from the construction zone
 - Excellent adjacent terrestrial habitat (rough grassland, scrub and woodland) is present adjacent to the permanent ponds at Castle Garth;
 - The boundary between the great crested newt breeding ponds at Castle Garth and the development site is a 7m wide metalled road (B122). Adjacent to this road lies terraced houses, minor roads with kerbs, amenity grassland, bare ground and disturbed areas which will discourage dispersal from the optimum habitats within Castle Garth.
 - The Great crested newt mitigation guidelines (English Nature – 2001) consider roads as a physical barrier to great crested newt dispersal. The B122 road provides access to the town and consequently, through flow of traffic is moderate and will restrict great crested newt dispersal towards the construction zone.
 - There are no ponds within 400m to the west of the Application Site and consequently, there are no imperative reasons for great crested newts to disperse from optimum breeding and terrestrial habitats (Castle Garth) to the Application Site and beyond via suboptimum habitats as described in section 3.2.
 - No great crested newts were observed during the refuge searches.
- 3.5 In addition, the great crested newt mitigation guidelines also indicate that as a general guide, suitable habitat within 250m of a breeding pond is likely to be used most frequently. Considering that any potential great crested newt movement into the construction zone would be from high quality terrestrial habitat (Castle Garth comprising rank grassland that is unmanaged, scrub and trees cover) to sub optimum sheep grazed pasture with no suitable aquatic habitats.

4.0 IMPACT ASSESSMENT – in the absence of mitigation

4.1 Short term impact assessment

4.1.1 Due to the presence of a population of great crested newts within 500m of the Application Site; the likelihood of great crested newts being harmed during the construction period is increased.

4.1.2 Ground clearance, heavy plant, site excavations, creating trenches for service/foundations, provision of artificial refugia and an increase in site vehicles during construction may harm low numbers of great crested newts that may disperse through the Application Site.

4.2 Long term impact assessment

4.2.1 Water bodies – no current great crested newt breeding habitat will be directly lost as part of the proposed development.

4.2.2 Terrestrial Habitat – The habitats within the Application Site are not optimum for great crested newts; optimum and abundant optimum habitat is located adjacent to Castle Garth ponds in the wider area. Consequently, Wold Ecology does not consider the habitat present within the Application Site to be integral in maintaining the long term conservation status of local great crested newt populations.

4.2.3 Habitat modification

Isolation caused by fragmentation – This is unlikely as optimum habitats adjacent to ponds 2-4 will remain post development. The proposed development will not fragment any great crested newt ponds or important habitat.

Miscellaneous – Miscellaneous impacts of this development such as an increase in footfall/traffic and disturbance to the site may have an indirect impact of great crested newts through disturbance of habitats and individuals, however this is perceived to be negligible.

4.3 In conclusion, the short and long term impacts from the proposed development will have low/negligible impacts on great crested newts and viable habitats – providing the mitigation recommended within this report is implemented. Wold Ecology considers that the proposed development and mitigation will ensure that the great crested newt populations within Cawood are maintained at a favourable conservation status. Conservation status is defined as “the sum of the influences acting on the species concerned that may affect the long term distribution and abundance of its population within its territory”. The impact assessment and mitigation strategy demonstrates that:

- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future
- There is, or will probably continue to be, a sufficiently large habitat to maintain its populations on a long term basis.
- There should be no net loss of aquatic habitats and that compensation should provide an enhanced resource.
- Compensation should ensure that the affected great crested newt population can continue to function as before, so attention may need to be given to surrounding habitats.

- The strategy should be considered to ensure that the great crested newt populations at the site are maintained at a favourable conservation status.

4.4 The following table illustrates the quantitative impacts of the development, long term impacts and habitat creation/enhancement. The development is considered to have a negligible impact on the long term viability of any great crested newt population.

4.5 **Quantitative summary of long-term impacts**

Impact	Number or area (ha) to be lost
Number of ponds to be lost	0
Number of ponds to be damaged	0
Total area of ponds to be lost (ha)	0
Area of immediate terrestrial habitat (<50m from pond) to be lost	0
Area of immediate terrestrial habitat (<50m from pond) to be damaged	0
Area of intermediate terrestrial habitat (50-250m from pond) to be lost	0
Area of intermediate terrestrial habitat (50-250m from pond) to be damaged	0
Area of distant terrestrial habitat (>250m from pond) to be lost	1.4
Area of distant terrestrial habitat (>250m from pond) to be damaged	0

5.0 MITIGATION

- 5.1 In recent years, there has been a trend towards increasingly precautionary applications, resulting from a risk-averse approach to mitigation. Whilst considering potential risks to great crested newts is laudable, many recent mitigation schemes have been designed for developments that actually had very little or no effect on the newt population.
- 5.2 A Natural England licence simply permits an action that is otherwise unlawful. A licence should be applied for if, on the basis of survey information and specialist knowledge, it is considered that the proposed activity is reasonably likely to result in an offence. No licence is required if, on balance, the proposed activity is unlikely to result in an offence.
- 5.3 Natural England is concerned about the trend for increasingly risk-averse mitigation and has produced a simple spreadsheet to evaluate risk. It has been generated by examining where impacts occurred in past mitigation projects, alongside recent research on newt ecology. The Natural England risk assessment approach is summarised below:

Summary of risk without mitigation.

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	1-5 ha lost or damaged	0.4
Individual great crested newts	Minor disturbance of newts	0.5
Maximum:		0.5
Rapid risk assessment result:	AMBER: OFFENCE LIKELY (in the absence of mitigation)	

- 5.4 The following site-specific factors are considered to further reduce the risk of an offence being committed:
- The construction zone is not high quality habitat and no favourable terrestrial great crested newt habitat or water-bodies will be damaged or destroyed as part of this development.
 - Optimum terrestrial habitat is located in the wider countryside and adjacent to existing great crested newt ponds.
 - The closest known permanent pond which supports great crested newt is 425m east of the construction zone
 - The construction period will be less than 18 months.
 - Temporary amphibian fencing will ensure that the construction zone will remain amphibian free during the development whilst allowing amphibian movement around the site.
- 5.5 Wold Ecology concludes that a detailed mitigation strategy will prevent any great crested newts being harmed by this development. Therefore, a Natural England Development License is not required.

Summary of risk with mitigation.

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	1-5 ha lost or damaged	0.04
Individual great crested newts	No effect	0
Maximum:		0.4
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

- 5.6 Based on the impact assessment and the information in the table above, Wold Ecology concludes that the short term and long term development impacts to individual great crested newts and associated habitats is negligible.
- 5.7 However, a detailed method statement is required to ensure that no great crested newts are harmed during the construction period and the proposed development will not be detrimental to the maintenance of the great crested newt populations, at a favourable conservation status in their natural range.
- 5.8 The Method Statement (see section 6.0) will ensure that no great crested newts will be harmed during the construction phase.

6.0 METHOD STATEMENT

- 6.1 This method statement (MS) has been designed to ensure the avoidance of disturbance, killing or injuring great crested newts by taking all reasonable steps to ensure works do not impact upon great crested newts or their associated habitat. This will be achieved by adhering to a site specific working method statement, which is aimed at reducing the potential impact upon great crested newts and their habitat during construction processes. The MS will also include additional steps in the form of an active barrier (temporary amphibian fencing) to exclude and prevent newts entering construction zone.
- 6.2 This Method Statement ensures that:
- Reasonable steps are taken to ensure that the risk of great crested newts being killed or injured is minimal.
 - Great crested newts are not to be significantly disturbed by the works.
- 6.3 The following will take place to avoid potential injury to great crested newts during construction works:
- A thorough hand search immediately prior to any ground works and vegetation clearance in any area which has not been subject to trapping and translocation
 - Supervision of vegetation clearance by a suitably qualified ecologist, holding a Natural England great crested newt survey licence
 - The installation of temporary great crested newt exclusion fencing and cattle-grid style newt exclusion grids to ensure that great crested newts cannot access the development area
- 6.4 All works must be implemented with caution/sensitivity, to minimise potential disturbance to important great crested newt habitat. A tool box talk will be given to all contractors involved in the development before works proceed. This will provide background information on great crested newts in the area, where great crested newts are likely to be found and what to do if great crested newts are unexpectedly discovered during works. Staff will be shown photos of great crested newts to ensure they are aware of the possible presence of great crested newts on site, what to look out for and their level of protection. The method statement will remain on site during the building works.
- 6.5 Vegetation Clearance
- 6.5.1 During early summer (late April/May), the vegetation will be intensively grazed by sheep to reduce the sward height. The construction zone will then receive at least two applications of an approved herbicide, which is licensed for aquatic use (such as Roundup Biactive). This is in order to reduce shelter and cover; thus making the construction zone poor quality for amphibians by reducing areas of shelter, foraging grounds and leaving amphibians open to predation and desiccation. The resultant exposed nature of the Application Site will reduce the likelihood of encountering amphibians within the construction zone because:
- The open exposed nature of these habitats with limited plant diversity with limited refugia results in a poor invertebrate habitat. Great crested newts predominantly prey on slugs, insects, spiders and earthworms. They tend to forage in woodland, scrub, rough grassland and wetland areas largely due to the large diversity and abundance of invertebrates which these areas attract.

- Great crested newts favour overwintering sites adjacent too or within tree cover. This offers more shelter through the winter and limits the severity of frost. The lack of tree cover and refugia reduce the likelihood of this species using the unviable habitats in which to hibernate.
- Great crested newts require areas of refuge such as cracks and crevices in the ground, old small mammal burrows, gaps beneath tree stumps and the bases of tussocks to shelter under during the day. The open well maintained nature of these habitats currently lacks these features, making it less suitable for the species.
- Creation of poor quality habitat will channel amphibians to use optimum habitats to the south.

6.5.2 A second spray during August would ensure any new growth dies back before the destructive searches.

6.6 Amphibian fencing

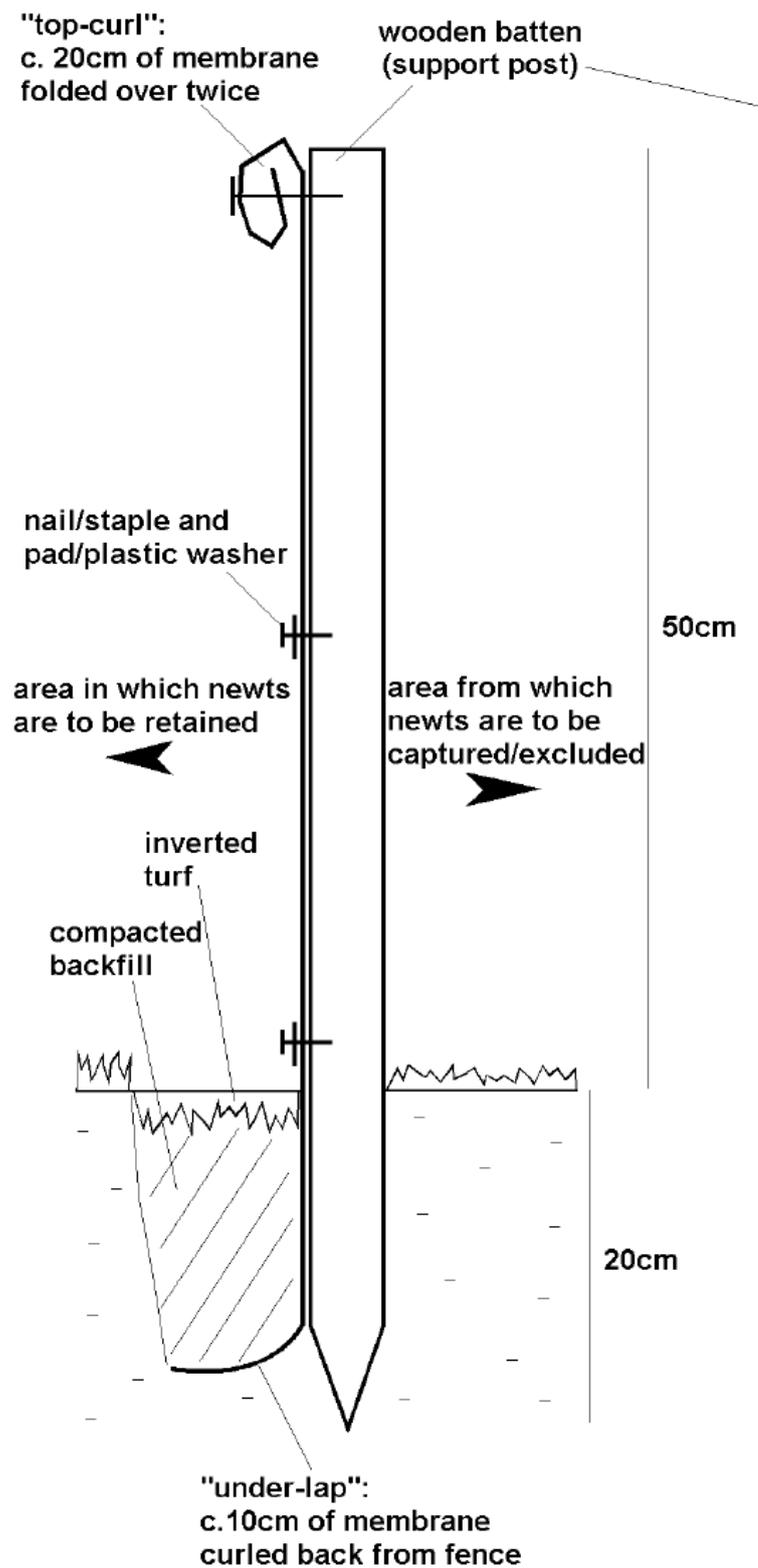
6.6.1 Great crested newts can be prevented from entering an area using temporary exclusion fencing. It is important that exclusion fencing is well specified, correctly installed and subject to on-going maintenance. Failure to do this could lead to it letting newts through unhindered.

6.6.2 Fencing should remain in-situ for the duration of the works as there is a risk that migrating newts would become caught up in the construction works whilst sheltering in spoil heaps and under building materials and equipment with the further risk of death and injury.

6.6.3 There are a number of designs for amphibian exclusion fencing. The design of the fencing should be fit for the purpose, durable and repairable should damage occur. A recommended specification for temporary fences is shown below in Figure 2.

6.6.4 Fencing installation should be instructed by, and if necessary, carried out under the supervision of, an appropriately experienced amphibian worker. Engaging the services of an experienced amphibian fencing contractor, who can fine-tune construction methods to cope with the different problems associated with different soil types, is strongly recommended. Natural England (2001) suggest that ‘despite the apparently simple construction methods involved, general fencing contractors with experience limited to the erection of ‘conventional’ stock barriers may not be appropriate’.

Figure 2 – cross section of exclusion fencing specification



- 6.6.5 The proposed fence-line should first be searched and cleared of amphibians if it is likely that they may be present.
- 6.6.6 The fencing is to be a continuous barrier (no gaps) to exclude any newts entering the development site. This will include tarmac concrete areas that will be cut with an angle grinder and the fencing cemented into position. Where access during the

day is required, an amphibian grid will be constructed from “H” section structural steel components. This will act as an effective barrier to amphibians whilst allowing vehicles to cross the amphibian proof exclusion fence.

Figure 3 – amphibian grid cross section.

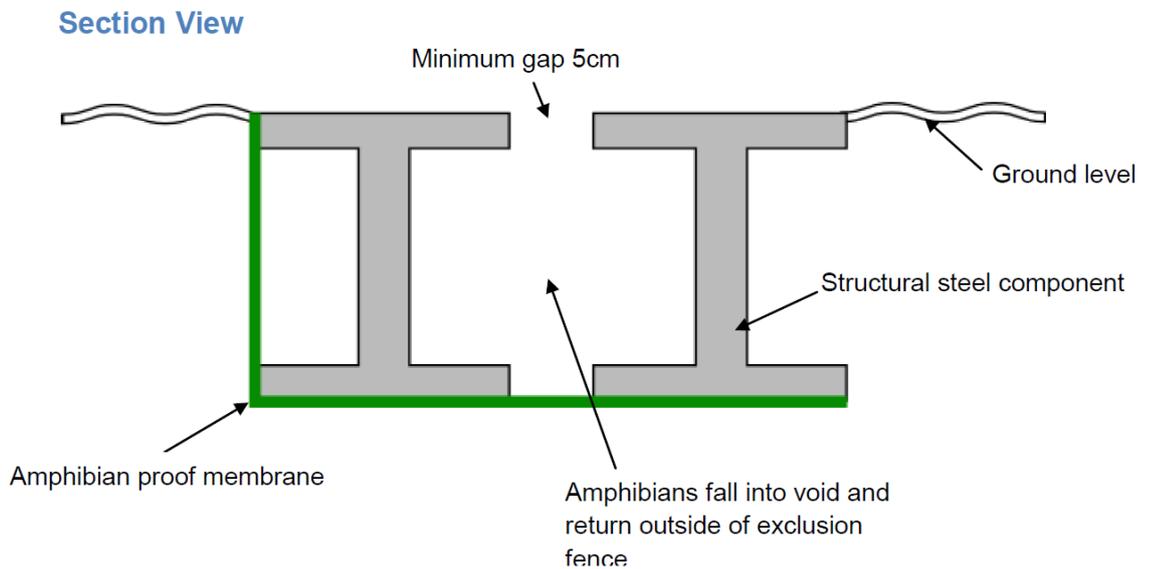
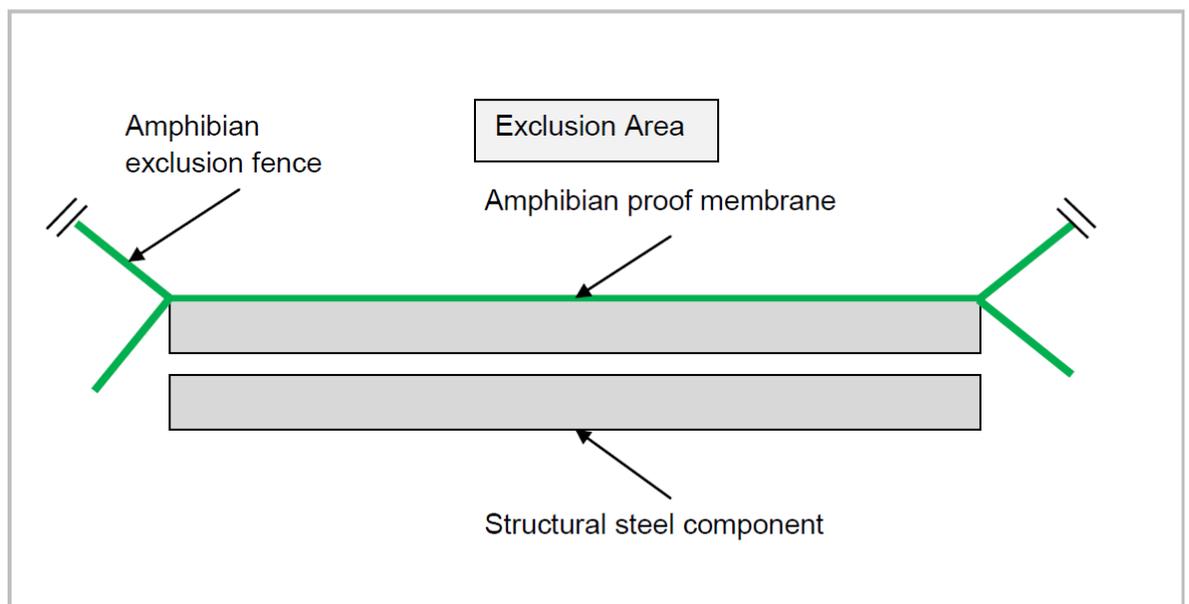


Figure 4 – amphibian grid plan view

Plan View



- 6.6.7 The fence should be installed to the correct height and depth and with an adequate ‘under-lap’ to prevent newts from passing underneath.
- 6.6.8 The backfill should be placed turf downwards in the trench (to suppress re-growth of grass) and well compacted to eliminate any lumps or gaps. Backfill must not remain un-compacted overnight, and all fence trenches must be filled the same day as they have been dug, as amphibians may seek shelter within any un-compacted soil or turf.

- 6.6.9 Exclusion fencing should have an overhang or ‘top curl’ to prevent newts from climbing over the fence.
- 6.6.10 The fencing membrane should be of a type that will not break down or become brittle under exposure to the elements, notably UV light. ‘1000 gauge’ transparent polythene sheeting works well in many situations, as do woven polypropylene and black polythene DPC. Ensure that the sheet width is sufficient to permit the forming of the ‘under-lap’ and ‘top-curl’ (1m is sufficient for most fences). The blue plastic often used in the building industry is not recommended because it can become brittle quickly and usually requires replacement after only a few months. Replacing large sections of fencing will cause an unnecessary disturbance to the newts and should be avoided whenever possible.
- 6.6.11 The fencing membrane should be as taut as possible without noticeable creases or folds which could allow newts to climb the fence. The use of too heavy a gauge of plastic may make it difficult to remove the creases and folds, and this could be a problem on uneven ground.
- 6.6.12 The fence should ideally be secured to the supporting posts by pads and nails or staples (not battens, which may allow newts to scale the fence).
- 6.6.13 Any joins in the membrane must be ‘curl-joined’ and well secured to a post with pads and nails. This jointing method should continue underground as well as above. Adhesive taped joins are not normally acceptable for long-term repairs to important parts of the fence, as they are not durable.
- 6.6.14 A record of fence inspection and damage repair work should be kept by the site manager as evidence that the newt-proof barrier has been properly maintained.
- 6.6.15 Newts may seek refuge in the shrinkage cracks that will occur between the fence and the backfill; therefore special care needs to be exercised when removing fencing. Should any fencing need replacement (including any that has to be replaced due to faulty installation), or during the final fence removal process, then all backfill should be removed carefully by hand under the supervision of newt ecologist, if it is thought likely that newts are present. This will minimise the risk of damaging or killing any amphibians that may be sheltering in the back-fill along the fence line.
- 6.6.16 It is sometimes necessary to control the vegetation along the fence-line to prevent the fence becoming overgrown, which helps the newts to breach the fence. This is best achieved by the careful application of an approved herbicide which is licensed for aquatic use (such as Roundup Biactive) to a narrow strip (50cm) on whichever side(s) of the fence newts are being prevented from climbing. Spraying should be undertaken once the amphibian fencing is erected and when the grass is still short and unsuitable for amphibians. This should ensure that vegetation is kept low throughout the growing season. Strimming should be avoided as amphibians may be present in the long grass.
- 6.6.17 The contractors and those involved with building works should take care not to provide temporary refugia for newts. Temporary refugia include stacking of sundries in plastic bags, leaving piles of rubble and the use of tarpaulins/plastic sheets. These all should be stacked on pallets (Off-Ground). All storage of materials and associated building works should only occur inside the newt fencing.

- 6.6.18 A full and thorough hand search of the construction zone must be implemented prior to fencing being erected, once the fencing is complete and prior to construction works, to check for great crested newts. This should be undertaken by a great crested newt ecologist.
- 6.6.19 The contractors and those involved with building works should take care not to provide temporary refugia for newts. Temporary refugia include stacking of sundries in plastic bags, leaving piles of rubble and the use of tarpaulins/plastic sheets. These all should be stacked on pallets (Off-Ground). All storage of materials and associated building works should only occur inside the newt fencing.
- 6.7 The location of the amphibian fencing is illustrated below: N ↑



— Temporary amphibian fencing

6.8 Hand Search

- 6.8.1 A hand search will be undertaken by an ecologist holding a great crested newt licence or their agent each morning prior to the start of any vegetation clearance and ground works (within areas that have not been subject to trapping and translocation). If an agent is used, they will be appropriately trained and experienced, holding a letter from the licensed ecologist in charge of the project stating this. Site visits suggest that that the soil structure has few cracks and crevices suitable for sheltering amphibians; the nature of the site including sprayed vegetation reduces the accessibility of this small number of crevices.

6.9 Timing

- 6.9.1 The development timescales are currently unknown.
- 6.9.2 It is normally unacceptable to attempt to capture amphibians once they have started to hibernate, which occurs when night temperatures drop towards freezing point, typically shortly before the first frosts, around mid-late October. This is largely because it is very difficult to find and capture animals once they have started to find refuges for winter; there is a risk that areas may be searched and declared free of newts when in fact the animals are still present in inaccessible underground crevices or in refuges. Searching destructively in winter, especially without a prior capture effort, is also more likely to result in mortality. In addition, from a welfare point of view it is most unwise to capture and relocate animals which have begun their winter dormancy.
- 6.9.3 Encountered amphibians should always be released in a sheltered area close to a suitable refuge, in weather conditions conducive to activity. Release should be as soon as possible and special care should be taken when releasing newts terrestrially during the day. Night releases are better but newts should not be unduly held in captivity. As a general rule, amphibians captured on land should not be released into water and vice versa, as this may disturb their physiology.
- 6.9.4 The amphibian fencing and destructive search will be conducted between late February and late September; outside of the hibernation period and prior to building works commencing on site.

7.0

BIBLIOGRAPHY

Anon, 1981. 'The Wildlife and Countryside Act, HMSO'.

English Nature, 2001. 'Great Crested Newt Mitigation Guidelines'

English Nature (Swan, M.J.S & Oldham, R.S), 1993. 'Herptile Sites; National Amphibian Survey Final Report, No.28 Vol.1'.

JNCC and Institute of Terrestrial Ecology, 1995. 'Atlas of amphibians and reptiles in Britain, NERC Copyright'.

JNCC, 1998 and 2003. 'Herpetofauna Workers' Manual'.

Joly, P.; Miaud, C.; Lehmann, A. & Grolet, O, 2001. 'Habitat Matrix Effects on Pond Occupancy in Newts, Conservation Biology'.

Langton. T, Beckett. C, Foster. J (Froglife), 2001. 'Great Crested Newt Conservation Handbook'.

RS Oldham et al, undated. 'Evaluating the suitability of habitat for the great crested newt'.

Sunter, R. & Mortimer, J., 2002. 'The Yorkshire Reptile and Amphibian Report'.

UK Biodiversity Group, 1998. 'Tranche 2 Action Plans: Terrestrial and Freshwater Habitats, Crown Copyright'.

Appendix 1 – Background to amphibians and great crested newts.

- 8.1 The UK has only a small amphibian fauna. There are six species of amphibians, common frog (*Rana temporaria*), common toad (*Bufo bufo*), natterjack toad (*Bufo calamita*), smooth newt (*Lissotriton vulgaris*), palmate newt (*Lissotriton helveticus*) and great crested newt. There are also several non-native amphibian species present in Britain.
- 8.2 Great crested newts are the largest of the three native newt species and can be distinguishable by size alone (over 10cm for adults). During the breeding season the male has a jagged crest along the centre of the back and tail. The tail also has a silvery blue stripe along the centre. The female has a yellow stripe on the underside of the tail. This species is uncommon in some areas of Britain.
- 8.3 Great crested newts, like all British amphibians, rely on water bodies for breeding, but otherwise spend much of their lives on land. They are ectotherms and have permeable skins, so most movement occurs when the air temperature is above approximately 5°C and there is, or has recently been rain.
- 8.4 Adults and immature newts spend the winter in places where they will be protected from frost and flooding. Whilst on land outside of the hibernation period, great crested newts will also take refuge to shelter from extremes of weather; hence during the day they will often rest in dense vegetation, under refuges or underground. Adult great crested newts normally begin moving from their overwintering land sites between February and April, with some adult newts not reaching the desired water body until May, depending on the weather. Not all life-stages enter water over the course of a year; immature newts (or efts) may spend all year on land.
- 8.5 Upon reaching the pond, the peak courtship and egg-laying period is normally from mid-March to mid-May. The larvae hatch out after about 3 weeks, and then take another 2 to 3 months to complete larval development. The larvae emerge from the pond upon completion of metamorphosis and enter the eft land stage. This move usually begins in early August and lasts for about 2 months. Adult newts generally leave the breeding ponds from late May onwards, a movement which occurs gradually with most newts having left by August but some staying until October or even remaining over winter.
- 8.6 Great crested newts in a given area often form a metapopulation (a series of sub-populations that are linked by dispersal of individuals). Newts function in this way since they depend on habitats which vary in quality over time, and where the distribution of suitable habitats often changes. This metapopulation concept complicates the study and conservation of this species, since impacts to a single pond may have knock-on effects on newts in nearby ponds. Great crested newts commonly move between ponds that are within around 250m of each other.

English Nature (2001) lists the following pond characteristics as being favourable for great crested newt populations:

- Small to medium sized breeding ponds (50-250m²).
- Variable depth, but preferably not so deep that aquatic and emergent vegetation is unable to take root. A maximum depth around 4m is acceptable.
- Substantial cover of submerged and marginal vegetation.
- Open areas to facilitate courtship behaviour.
- Good populations of invertebrates and other amphibians as prey.
- Ponds in clusters rather than in isolation.
- Absence of shading on the south side.
- Absence of fish.
- Absence of waterfowl.

8.7 Legal Framework

8.7.1 The great crested newt is protected under European and British legislation. Under European legislation it is protected under EC Directive (92/43/EEC) 'The Conservation of Natural Habitats and of Wild Fauna and Flora', being listed under Annexes IIa and IVa. This is implemented in Britain under the Conservation of Habitats and Species Regulations 2010. This prohibits the intentional killing of newts, the deliberate taking or destruction of eggs, damage or destruction of a breeding site or resting place, intentional/reckless damage to or obstruction of a place used for shelter or protection, possession of a great crested newt and any form of trade of great crested newts.

8.7.2 Under British legislation, the great crested newt is given full protection under section 9 of the Wildlife and Countryside Act 1981 (as amended). This Act transposes into UK law the Convention on the Conservation of European Wildlife and Natural Habitats (commonly referred to as the 'Bern Convention'). This prohibits the intentional killing, injuring or taking, possession or disturbance of great crested newts whilst occupying a place used for shelter or protection and the destruction of these places. Protection is given to all stages of life (e.g. adults, sub-adults, larvae, and ovae).

In combination the above legislation prohibit the following:

- Intentionally kill, injure or take a great crested newt;
- Possess or control any live or dead specimen or anything derived from a great crested newt;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt;
- Intentionally or recklessly disturb a great crested newt while it is occupying a structure or place which it uses for that purpose;
- Deliberately capture or kill a great crested newt;
- Deliberately disturb a great crested newt;
- Deliberately take or destroy eggs of a great crested newt;
- Damage or destroy a breeding site or resting place of a great crested newt.

The great crested newt is therefore described as 'fully protected'.

8.7.3 Great crested newt has also been identified in the UK Biodiversity Steering Group Report, Volume 2: Action Plan (UK BAP, 1995), as a priority species requiring conservation action and consequently, an Action Plan has been developed for the conservation of this species. The following are cited within the UK Action Plan as causing loss and decline:

- Loss of suitable breeding ponds caused by water table reduction, in-filling for development, farming, waste disposal, neglect or fish stocking and the degradation, loss and fragmentation of terrestrial habitats.
- Pollution and toxic effects of agrochemicals.

8.7.4 Where great crested newts are present, it is usually necessary to obtain a licence from Natural England for any works that may disturb them.

Appendix 2 – Consultation with Cawood Parish Council.

From: Robina Burton [mailto:robina_burton@hotmail.com]

Sent: 21 April 2015 21:16

To: Chris Toohie

Subject: RE: Great crested newt surveys

Dear Chris

Thank you for your reply answering the queries of the Parish Council.

Your request was discussed at the April Parish Council meeting when it was decided against allowing you to carry out a survey of the newts. The Castle Garth is an area of historical and scientific interest and it was felt that the purpose of the survey would oppose these principles.

We are sorry but we cannot help you further.

Kind regards

Robina Burton

Parish Clerk

From: chris.toohie@woldecology.co.uk

To: robina_burton@hotmail.com

CC: brian@brianscottdesigns.co.uk; richard.gibson@woldecology.co.uk

Subject: RE: Great crested newt surveys

Date: Mon, 6 Apr 2015 12:23:25 +0100

Good afternoon Robina,

Thank you for your quick response, please find below a response to your queries:

The Parish Council will discuss your request at the April meeting. In the meantime please would you supply the following information:

Who is employing your company to do the proposed survey? My client is David Pulleyn and he is the owner of the land off Wolsey Close which will be the subject of a planning application.

Is this proposed survey part of a wider piece of work? No, our amphibian survey will just be for 2015 and will target the ponds on Castle Garth and a single pond within the Application Site.

Please would provide us with a copy of the brief Wold Ecology have received from your Employer? We originally undertook a phase 1 ecology survey and having worked on smaller projects in the area (Cawood Community Centre), we are aware that great crested newts are present in the town. Consequently, we recommended that a great crested newt presence/absence survey is undertaken on all ponds within 500m of the Application Site, prior to development work commencing. The recommended great crested newt surveys must follow survey methods based on the guidance contained within 'Great Crested Newt Mitigation Guidelines' *English Nature*, 2001. The survey work will involve the following elements:

- Make an accurate and comprehensive assessment of the potential for great crested newts on the site and the likelihood of their presence within the development boundaries.
- Undertake four surveys of the site for great crested newt, including all ponds within 500m of proposed development. This includes seasonal ponds.
- An additional two surveys will be required if great crested newts are present. This is in order to assess the population size and is required to support any subsequent Natural England license.
- Submit a report detailing the above and offer a non-technical summary of the legal implications behind any great crested newt presence

- Make any initial recommendations for potential mitigations required in the light of survey and report, especially with regard to the need for a Natural England license.
- The requirement for great crested newt presence or absence surveys should be included on any planning decision letter. A great crested newt ecologist will be present on site during the initial start of works; in order to provide advice to contractors, managers and implement any subsequent mitigation strategies.

Field Survey Methods.

Egg Search - This method involves searching both live and dead submerged vegetation for great crested newt eggs. English Nature (2001) state that ‘this is often a very effective method for detecting great crested newt presence’. English Nature (2001) also state that the optimum time for egg searches is between ‘April and June’.

Bottle Trapping - This method involves setting bottle traps (normally made from 2-litre plastic bottles) around the pond margin, and leaving the traps set overnight. A density of one trap per two metres of shoreline is recommended for general survey purposes. This is a particularly reliable method for detecting the presence of great crested newts.

Torch Survey - This method involves searching for great crested newts at night by shining a torch in the pond. In clear ponds this can be a simple and very effective way of detecting newts.

Netting - Using a long-handled dip-net, great crested newts can be captured by sampling the area around the pond edge. Netting can be conducted by day or night, but better results may be obtained at night when adult newts are more likely to be in open water. There should be at least 15 minutes of netting per 50m of shoreline.

We would look to visit the site early evening (about 6pm) to set the traps and return to the site after dark for the torch survey. The bottle traps will be removed from the site early (before 10am) the following morning.

English Nature (2001) recommends at least 3 of the 4 field survey methods are undertaken during each visit. Four visits are required to determine the presence/absence of great crested newts and these must be undertaken during suitable weather conditions and between the months of mid March to mid June; with at least two of these visits occurring between mid April and mid May.

Method.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Egg search.												
Bottle trapping.								(L)	(L)			
Torch survey.								(L)	(L)			
Refuge search.												

Most effective		Less effective		Not effective		Larvae search	(L)
----------------	--	----------------	--	---------------	--	---------------	-----

Who should we contact at your Employer if we have any further questions – email and telephone details please? I am the owner of Wold Ecology and I will be your point of contact. I will assist with the field surveys but it is likely that Wold Ecology staff will undertake most of the field work. My address is
 2 Redwood Gardens, Driffield,
 East Yorkshire. YO25 6XA.
 Tel : 01377 200242
 Mob : 07795 071504

If you require any further information, please do not hesitate to contact me on the numbers above.

Kind regards

Chris Toohie M Sc. MCIEEM

WOLD ECOLOGY LTD



2 Redwood Gardens, Driffield,
East Yorkshire. YO25 6XA.
Tel : 01377 200242
Mob : 07795 071504

 [Follow us on twitter @WoldEcology.](#)

 [Find us on Facebook.](#)

 [Find us on LinkedIn.](#)

This email and any attachments, may be confidential and are intended solely for the use of the individual to whom it is addressed. Any views or opinions expressed are solely those of the author and do not necessarily represent those of Wold Ecology Ltd. If you are not the intended recipient of this email, you must neither take any action based upon its contents, nor copy or show it to anyone. Please contact the sender if you believe you have received this email in error.

From: Robina Burton [mailto:robina_burton@hotmail.com]

Sent: 31 March 2015 22:22

To: Chris Toohie

Subject: RE: Great crested newt surveys

Dear Chris

Thank you for your message.

The Parish Council will discuss your request at the April meeting. In the meantime please would you supply the following information:

Who is employing your company to do the proposed survey?

Is this proposed survey part of a wider piece of work?

Please would provide us with a copy of the brief Wold Ecology have received from your Employer?

Who should we contact at your Employer if we have any further questions – e.mail and telephone details please?

Thank you for your help and we look forward to receiving this information.

Kind regards

Robina Burton

Parish Clerk

From: chris.toohie@woldecology.co.uk
To: robina_burton@hotmail.com
Subject: Great crested newt surveys
Date: Tue, 31 Mar 2015 14:20:43 +0100
Dear Robina,

I am writing to you requesting permission to survey ponds at Castle Garth for great crested newts.

The field surveys will involve up to 6 visits (only 4 will be required if no great crested newts are present) to the ponds between now and mid June. Each survey will include:

- Egg searching of the ponds during the early evening
- Setting 2 litre bottle traps in the ponds during the early evening
- A torch light survey in the evening
- Emptying/collecting bottle traps the following morning. All materials will be removed off site between surveys.

Each survey will be at least 5 days apart and we will be discreet with our work so to avoid any disturbance. Following the survey, I will also confirm the great crested newt population size and any other information that you require.

We are an established (founded 2006) professional company whose staff has over 30 years' experience in providing a bespoke service for environmental management. Wold Ecology provides a wide range of specialised advice aimed at integrating business with nature. We specialise in ecological surveys, land management planning and site assessments.

Please can you let myself know if you grant or deny permission for Wold Ecology to survey the ponds at Castle Garth.

Thanking you in advance and kind regards

Chris Toohie M Sc. MCIEEM

WOLD ECOLOGY LTD



2 Redwood Gardens, Driffield,
East Yorkshire. YO25 6XA.
Tel : 01377 200242
Mob : 07795 071504

 [Follow us on twitter @WoldEcology.](#)

 [Find us on Facebook.](#)

 [Find us on LinkedIn.](#)

This email and any attachments, may be confidential and are intended solely for the use of the individual to whom it is addressed. Any views or opinions expressed are solely those of the author and do not necessarily represent those of Wold Ecology Ltd. If you are not the intended recipient of this email, you must neither take any action based upon its contents, nor copy or show it to anyone. Please contact the sender if you believe you have received this email in error.