



Land at Woodlands Lane,
Bedworth,
Warwickshire

**Great Crested Newt Population
Surveys and Mitigation Strategy**

Prepared by:
Griffin Ecology Ltd

Instructed by:
A.R. Cartwright Ltd

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We assist our clients to deliver a measurable net gain in biodiversity.

Survey Date: May – June 2023

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Draft Report	12 th July 2023	Casey-Ruth Griffin BSc (Hons) MCIEEM Principal Ecologist	Ian Griffin, Commercial Director	Casey-Ruth Griffin BSc (Hons) MCIEEM Principal Ecologist
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Contact details:

Griffin Ecology Ltd.

Bloxham Mill Business Centre, Barford Road,
Bloxham, Oxfordshire, OX15 4FF, United Kingdom
Tel: 01295 982022

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1. Introduction

1.1 Background Legislative Context

Griffin Ecology Ltd. has been appointed by the client to undertake a great crested newt GCN (*Triturus cristatus*) population survey to inform a suitable mitigation strategy in respect of the proposals at Land off Woodlands Road, Bedworth, Warwickshire. Ecological constraints, relating to the presence of GCN on site, have been identified during the informing Preliminary Ecological Appraisal, undertaken by Stephan Bodnar in July 2021 as well as the eDNA sampling survey, undertaken by Griffin Ecology Ltd. in June 2022.

The site (central grid reference: SP 34129 87595), is approximately 1.29ha in size and is located off Woodlands Road to the northern outskirts of the settlement of Bedworth, Warwickshire. A residential development is located to the south and an electrical substation is located to the north. The site is currently used as horse grazed pasture, with stables to the south western corner of the land parcel. As confirmed within the informing PEA (S. Bodnar, 2021) the site supports species rich semi-improved grassland with a mature native hedgerow to the eastern boundary and a waterbody to the western boundary. In addition to the on-site pond, informing surveys have confirmed P2 to be potentially connected to the site and to lay within a 250m radius to the west of the site boundary. Figure 1, below, seeks to illustrate the locations of ponds subject to further population survey:

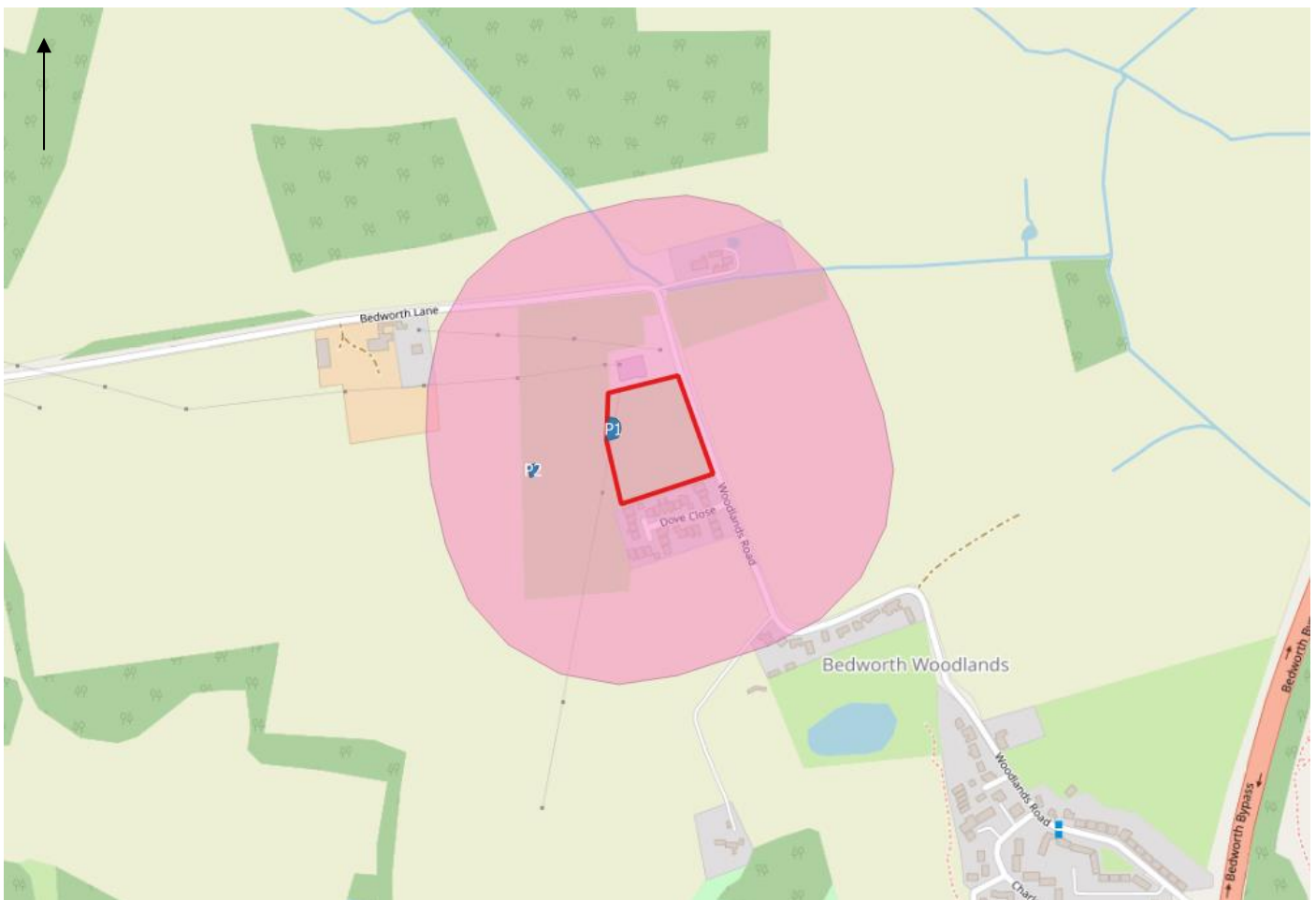


Figure 1: Ponds subject to survey

1.2 Legislative Context

Great crested newts are fully protected through inclusion on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (The Habitats Regulations). In brief, this legislation makes it an offence to:

- deliberately kill, injure, or take a great crested newt;
- deliberately disturb a great crested newt in such a way as to be likely to impair their ability to survive, breed or reproduce, or rear or nurture their young; to hibernate or migrate; or to affect significantly the local distribution or abundance of that species;
- deliberately take or destroy the eggs of a great crested newt;
- damage or destroy the breeding or resting place of a great crested newt;
- intentionally or recklessly obstruct access to a place that a great crested newt uses for shelter or protection; and
- intentionally or recklessly disturb a great crested newt whilst it is occupying a place which it uses for shelter or protection.

2. Methodology

Population surveys for great crested newts (GCN) require a minimum of 6 visits per year, with at least 4 visits between mid-April and mid-May to record peak numbers of GCN (English Nature, 2001). In this instance, as a result of late instruction, only 2 surveys were undertaken during the peak period prior to mid-May. Several survey methodologies are to be utilised during these visits.

Survey methodologies undertaken during this assessment include:

Torchlight survey

Bottle trapping

Egg searching

Hand netting

Refuge searching

The torchlight survey is a standard amphibian recording technique employing a high power torch to illuminate the waterbodies, allowing the surveyor to record any GCN seen. This technique has been undertaken during the survey visits, when males will be displaying and courting females.

Bottle traps have been set during the evening using the method described by Gent and Gibson (1998). These traps are then checked for newts before 7am the following morning. Any newts found have been recorded and then released back into the pond.

Egg searches have been undertaken during each survey visit. Such searches involve a direct assessment of emergent and submerged vegetation for GCN eggs. Egg surveys can only be undertaken during late spring and early summer (April to June).

The waterbodies surveyed, have been hand netted by the surveying ecologist with netting focused around emergent vegetation along the waterbody edges.

In this instance, access was not possible to one of the ponds located within a 500m radius of the site. As such survey effort also included refuge searching and terrestrial torching of habitats on site and surrounding the waterbodies. This

involved looking underneath c20 carpet tiles placed within the semi-improved grassland and adjacent to the boundary hedgerows for the purpose of this assessment as well as natural objects occurring on site. Adult and juvenile GCN can often be found underneath such objects, between March and October, especially if the objects are flat and retain moisture. Refuge searching is not a reliable method on its own and is only used as a supporting method to the other methods described.

Population Size Assessment

The peak population count for a single night is used to inform the calculation of population size class.

Small Population – where peak count is up to 10

Medium Population – where peak count is 11 to 100

Large Population – where peak count exceeds 100

The population size class assessment is used to determine the level of mitigation required, should great crested newts be found.

3. Limitations

Although all surveys have been completed during the survey window of mid-March to mid-June, as a result of late instruction, only 2 surveys have been undertaken during the peak period between mid-April and 20th May. In consideration of the limitation of late instruction the full 6 surveys have been completed despite GCN absence observed during the first 2 surveys prior to 20th May. As such the survey results are considered to provide as robust assessment as possible given the constraint.

4. Personnel

Field surveys have been led by experienced and appropriately licenced ecologist Ash Martin ACIEEM (24654 CSLS-CLS Class 1) assisted by Gemma Martin. Reporting has been completed by Casey Griffin, Principal Ecologist and Technical Director with 15 years' experience as an ecologist and Full Member of the Chartered Institute of Ecology and Environmental Management (MCIEEM).

5. Results

5.1 Population Size Class Assessment Survey

Whilst the eDNA survey only identified great crested newt in Pond 1, Pond 2 is potentially connected through vegetated corridors and located within a 250m radius of the site. As such, both ponds have been included in the population size class assessment. Tables 1 to 6 provide details of the 2023 great crested newt survey results.

Table 1: Results of survey 11th May to 12st May 2023

Project	Woodlands Road			Date		11/05/2023-12/05/2023	
Surveyor	Ash Martin & Gemma Martin			General Weather		Dry and warm	
Temperature	14°C–10°C	Cloud cover	30%	Wind	1	Precipitation	None
Results							
Pond 1	Number traps in/out		30/30				
<i>Species – GCN = Great Crested Newt, SN = Smooth Newt, PN = Palmate newt, Other – detail in notes</i>							
Bottle trap reference	Grid reference	Species	Life stage	Number recorded	Sex	Notes	
7	SP 34082 87607	SN	Adult	2	M	2 male smooth newt, in breeding condition, healthy individuals	
Pond 2	Number traps in/out		25/25				
Bottle trap reference	Grid reference	Species	Life stage	Number recorded	Sex	Notes	
						None seen	

Table 2: Results of survey 19th May to 20th May 2023

Project	Woodlands Road			Date		19/05/2023-20/05/2023	
Surveyor	Ash Martin & Gemma Martin			General Weather		Dry and warm	
Temperature	16°C–12°C	Cloud cover	10%	Wind	0	Precipitation	None
Results							
Pond 1	Number traps in/out		30/30				
<i>Species – GCN = Great Crested Newt, SN = Smooth Newt, PN = Palmate newt, Other – detail in notes</i>							
Bottle trap reference	Grid reference	Species	Life stage	Number recorded	Sex	Notes	
22	SP 34067 87599	SN	Adult	1	M	1 male smooth newt, in breeding condition,	

						healthy individual
Pond 2		Number traps in/out		25/25		
Bottle trap reference	Grid reference	Species	Life stage	Number recorded	Sex	Notes
						None seen

Table 3: Results of survey 24th May to 25th May 2023

Project		Woodlands Road			Date		24/05/2023-25/05/2023		
Surveyor		Ash Martin & Gemma Martin			General Weather		Dry and warm		
Temperature		17°C–14°C	Cloud cover		50%	Wind	0	Precipitation	None
Results									
Pond 1		Number traps in/out		30/30					
<i>Species – GCN = Great Crested Newt, SN = Smooth Newt, PN = Palmate newt, Other – detail in notes</i>									
Bottle trap reference	Grid reference	Species	Life stage	Number recorded	Sex	Notes			
12	SP 34078 87613	SN	Adult	1	M	1 male smooth newt, in breeding condition, healthy individual			
Pond 2		Number traps in/out		25/25					
Bottle trap reference	Grid reference	Species	Life stage	Number recorded	Sex	Notes			
						None seen			

Table 4: Results of survey 30th May to 31st May 2023

Project		18-20 Coventry Rd			Date		30/05/2023-31/05/2023		
Surveyor		Ash Martin & Gemma Martin			General Weather		Dry and warm		
Temperature		13°C–10°C	Cloud cover		70%	Wind	1	Precipitation	None
Results									
Pond 1		Number traps in/out		30/30					
<i>Species – GCN = Great Crested Newt, SN = Smooth Newt, PN = Palmate newt, Other – detail in notes</i>									
Bottle trap reference	Grid reference	Species	Life stage	Number recorded	Sex	Notes			
						None seen			
Pond 2		Number traps in/out		25/25					
Bottle trap reference	Grid reference	Species	Life stage	Number recorded	Sex	Notes			
						None seen			

Table 5: Results of survey 4th June to 5th June 2023

Project	Woodlands Road			Date		04/06/2023-05/06/2023	
Surveyor	Ash Martin & Gemma Martin			General Weather		Dry and warm	
Temperature	15°C–11°C	Cloud cover	60%	Wind	3	Precipitation	None
Results							
Pond 1	Number traps in/out		35/35				
<i>Species – GCN = Great Crested Newt, SN = Smooth Newt, PN = Palmate newt, Other – detail in notes</i>							
Bottle trap reference	Grid reference	Species	Life stage	Number recorded	Sex	Notes	
						None seen	
Pond 2	Number traps in/out		25/25				
Bottle trap reference	Grid reference	Species	Life stage	Number recorded	Sex	Notes	
						None seen	

Table 6: Results of survey 12th June to 13th June 2023

Project	Woodlands Road			Date		12/06/2023-13/06/2023	
Surveyor	Ash Martin & Gemma Martin			General Weather		Dry and warm, rain over night	
Temperature	22°C–20°C	Cloud cover	70%	Wind	1	Precipitation	None
Results							
Pond 1	Number traps in/out		35/35				
<i>Species – GCN = Great Crested Newt, SN = Smooth Newt, PN = Palmate newt, Other – detail in notes</i>							
Bottle trap reference	Grid reference	Species	Life stage	Number recorded	Sex	Notes	
7	SP 34082 87607	SN	Eft	3	n/a	3 smooth newt efts captured in bottle trap	
7	SP 34082 87607	GCN	Eft	1	n/a	1 GCN eft captured alongside SN efts in bottle trap	
Pond 2	Number traps in/out		25/25				
Bottle trap reference	Grid reference	Species	Life stage	Number recorded	Sex	Notes	
						None seen	

6. Conclusion and Impact Assessment

Across all the surveys a peak count of 1 great crested newt has been recorded. This individual has been an eft caught within a bottle trap set at P1 on the final visit. The presence of an eft GCN within this pond is a clear indication that breeding had taken place within this pond. No great crested newt eggs were found in either of the ponds subject to survey.

With only one GCN recorded during the survey period, despite a range of survey techniques employed, it is concluded that the on site pond supports a very small population that is present on the site. It is also concluded that due to their close proximity it is likely that individuals would regularly migrate between all the ponds forming a small metapopulation. It is therefore proportionate to consider the ponds as supporting a single population, rather than individual exclusive populations. This small population is indicative that the existing habitats are not of a suitable size or connectivity value to support a larger population.

Additional observations have indicated a breeding population of smooth newts in pond 1. Applying the selection criteria in Herpetofauna Workers’ Manual the amphibian assemblage would not qualify for selection as an amphibian Site of Special Scientific Interest.

The proposed development would involve the construction of some 24 residential dwellings, plus associated access, infrastructure, gardens and car parking within the grassland habitat on site resulting in impacts to terrestrial habitat considered to be of low to medium quality within 50m of ponds supporting a small population of great crested newts.

Due to the nature of the works and proximity to the ponds, it is considered that in the absence of mitigation and post-development habitat enhancement, anticipated impacts to great crested newts would result in the following impacts:

- Permanent and temporary destruction of terrestrial habitat
- Temporary disturbance during the construction phase,
- Increased post development interference
- Partial fragmentation of habitat.

The scales of these impact range from low to medium and have been summarised further using Natural England’s Risk Assessment tool as seen in Table 7.

Table 7: Natural England Risk Assessment for Great Crested Newt

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)	>1 ha lost or damaged	0.9
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	Capture of newts in excavations etc	0.8
	Maximum:	0.9
Rapid risk assessment result:		RED: OFFENCE HIGHLY LIKELY

The above works have the potential to result in a breach of legislation relating to the protection of great crested newt. As such, works can only proceed in accordance with measures set out within a granted EPS mitigation licence from Natural England or an appointed authority which holds powers under a local District Level Licence.

7. Mitigation Strategy

The proposed plans have been designed in a manner to ensure that the onsite pond (P1) is retained and protected within the scope of works. However, construction and preparation activities on site will result in the loss of approximately 60% of the terrestrial habitat within 100m of P1.

Due to their ability to disperse over long distances GCN could feasibly be encountered anywhere within this habitat at certain times of year and when not within the pond. GCN are at risk from direct mortality caused by construction traffic, site clearance or if GCN get crushed and/or buried during earthworks.

This outline GCN mitigation strategy takes account of a proposed Landscaping Strategy Dwg. No. 7558/ASP3/LSP Rev A, Dated May 2023. The EPSL application will need to include details of the overall Masterplan and the specific phasing of GCN mitigation. As the details for the proposed development on site are currently being developed, broad mitigation principles have been incorporated into this outline strategy.

In addition to the impacts arising from the proposed development, future cumulative impacts need to be considered in a future EPSL. As such, the proposed mitigation set out in this outline strategy has taken the principles of these additional impacts into account, where known.

Exclusion and trapping

In order to prevent newts entering the development footprint temporary amphibian fencing (TAF) will be installed around the full extent of the development zone. This TAF will remain in place for the duration of the work to prevent GCN from accessing the construction site. The internal areas of the construction footprint would be compartmentalised into suitable areas practical for trapping and drift fencing would be installed in these areas.

When understanding the presence of a "small" population of GCN, locally, a 30 day trapping period is required. This involves installing pitfall traps around the inside of the temporary amphibian fencing. Once deemed fit for purpose by the appointed ecologist, daily visits to inspect the traps will be undertaken for a minimum of 30 days.

The trapping can only be undertaken during suitable weather conditions whilst the newts are active i.e. not during the hibernation period (which is usually between early November to February/March, depending on weather conditions). Suitable conditions are reasonably mild, damp evenings where the minimum night time temperatures are above 5°C. It should be noted that this is 30 'suitable' days and not 30 calendar days. Trapping can cease only after 5 zero capture days in suitable conditions once the 30 days have been completed.

The fencing specifications are 500mm high with an over-hang at both ends, in line with Natural England Guidelines (English Nature, 2001). Drift fencing will be used to compartmentalise the construction area and aid exclusion. The installation of fencing will be supervised by the licensed ecologist and or the accredited agents working to the licensed ecologist. Fencing will need to be carefully maintained until the completion of the GCN translocation programme to ensure that it is performing its function.

The precise programme for EPSL preparation and the trapping programme would be developed once planning permission has been given.

Receptor Site:

Captured GCN would be released at the appropriate GCN receptor site (identified in Figure 2). This receptor site will be located around the retained pond (P1). The pond and area around it will be enhanced through remedial management for the value of GCN. The existing, extensive stands of encroaching blackthorn, which currently heavily shade this water body will be thinned by hand allowing for greater light filtration.

The following details will be incorporated in the enhancement of the receptor site for GCN:

- General terrestrial habitat improvement will be required as the land is currently shaded heavily by blackthorn scrub. This would involve scarification/ground preparation and seeding with an appropriate wild flower grass seed mix. Emorsgate EM4 (or similar) would be a suitable species mix;
- Hibernacula creation is to be included in this design (1 south of P1 and the other to the northern corner adjacent planted native hedgerow. Hibernacula can be created very quickly and inexpensively using local materials and at the same time as the pond enhancement. Acceptable specifications are available in the GCN mitigation guidelines and provided within Figure 3 (English Nature, 2001);
- GCN mitigation areas will be fenced and warning signs for deep water put in place (next to the ponds) for public health and safety.

The GCN receptor area enhancement measures will be undertaken prior to fencing and translocation allowing them to establish in advance of GCN relocation. These areas are planned to be created as soon as planning is granted, providing a minimum of 6 months to establish, before GCN are translocated.

Figure 2, seeks to illustrate the extent of fencing required for the trapping and exclusion to be undertaken under licence.



Figure 2: Mitigation Map

Once the trapping is completed a visual and fingertip search of the entire development footprint should be conducted by the licenced ecologist. This is then followed by a controlled, ‘destructive search’ of all vegetation and any other features that may offer shelter to GCN. Prior to the works, all site personnel will be given a toolbox talk to inform them about the potential presence of great crested newts and the legal protection they are afforded. The destructive search should be conducted by hand initially with any remaining heavy materials lifted by 360° excavator. The final stage is a turf strip to locate any remaining newts.

Mitigation for GCN will also reduce the risk of harm to other protected species such as grass snake as well as any non-protected species that may be encountered on the site.

GCN enhancements

Pond and terrestrial habitat creation

Proposals include the creation a new attenuation basin adjacent to the northern site boundary and within 50m of P1. Once exclusion and trapping has been completed under terms of the licence, works will be prioritised to ensure the construction of the attenuation pond completed in the first instance, allowing this habitat opportunity to establish prior to occupation of the site. This attenuation basin will be engineered in a manner to ensure that it retains a reasonable depth of water for extended periods, thereby enhancing aquatic habitat within a local context and providing greater breeding habitat for GCN.

Additional mixed native species hedgerow planting has been incorporated along the northern site boundary in an effort to ensure greater connectivity between the proposed attenuation basin and P1.

To compensate for the loss of terrestrial habitat, alternative habitat must be created of at least the same size and quality of that lost. Thus an area of new terrestrial habitat around the new attenuation basin will be provided. Furthermore, land to the west of the site is allocated for the delivery of a BNG through further enhancement of grassland including the relaxed management of grazed horse pasture. This will be allowed to develop into rough grassland. Adopting a mowing regime similar to that used to create/manage a wildflower meadow, ie cutting and removing the arisings once a year in late autumn, will allow wildflowers and grasses to self seed.

Additional habitat features including hibernaculum (rubble pile covered in topsoil) and logs piles will also be created. Since the quality of the existing habitat is not particularly high, these measures will result in a significant increase in terrestrial habitat.

Hibernaculum Specification (Natural England 2001)

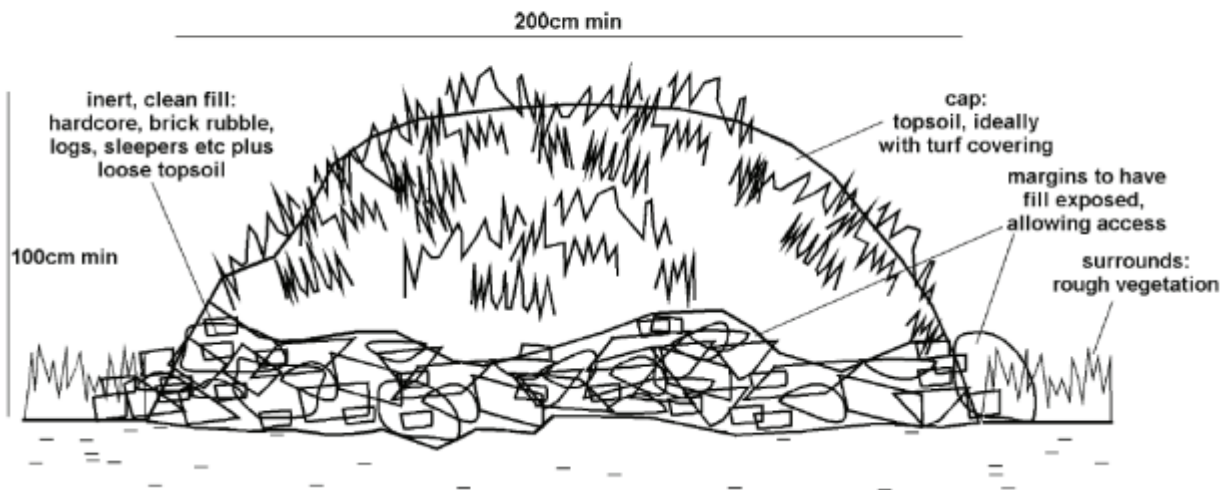


Figure 3: Hibernaculum Specification

The extent and locations of enhanced opportunities for GCN, post development, are provided within Figure 5; Landscape Strategy.

Figure 5: Landscape Strategy



In accordance with the mitigation hierarchy, as described in Paragraph 175 of the National Planning Policy Framework and reiterated in British Standard 42020:2013 (Biodiversity), potential ecological impacts should be avoided in the first instance where possible, with mitigation or compensation applied when avoidance is not achievable. In this instance, the loss of aquatic habitat has been avoided and proposals designed in a manner to provide enhanced terrestrial opportunities post development both on site and offsite within land allocated for the delivery of a BNG.

Once a formal layout design has been informed and finalised the proposals should be considered through the most recent DEFRA BIA Metric seeking to demonstrate a BNG is achievable as a result of the proposed.

Biodiversity net gain has been defined as 'development that leaves biodiversity in a better state than before, and an approach where developers work with local governments, wildlife groups, landowners and other stakeholders in order to support their priorities for nature conservation' (Baker, 2016).

Good practice principles for biodiversity net gain are set out within Table 1.1 of Biodiversity Net Gain: Good practice principles for development (Baker et al., 2019).

The key principles include:

- Apply the 'Mitigation Hierarchy' (in line with CIEEM Guidelines for Ecological Impact Assessment (EclA)) (CIEEM, 2018) and be 'additional' by achieving outcomes that exceed existing obligations.
- Avoid losing biodiversity which cannot be off-set elsewhere (e.g. irreplaceable habitats).
- Address risk (e.g. difficulty of achieving habitat creation / enhancement for net gain).
- Make a 'measurable' net gain contribution (e.g. calculated using an appropriate metric) and ensure that calculations consistent and transparent (i.e. limitations and assumptions are clearly identified).
- Ensure that net gain design achieves the best outcome for biodiversity (this may require both quantitative and qualitative assessment) and create a net gain legacy for long-term benefits.

8. References

- English Nature, 2001. Great crested newt mitigation guidelines. Version: August 2001. English Nature, Peterborough.
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