

Amenity Tree Care Ltd.

**Land to the south of Lickers Lane, Halsnead -
GCN/Amphibian Appraisal & Habitat Enhancement
Measures Strategy (August 2023)**

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1.0 EXECUTIVE SUMMARY

- 1.1 Amenity Tree Care (ATC) was commissioned to undertake a great crested newt (GCN)/amphibian habitat appraisal, assess the predicted development effect and formulate appropriate and proportionate GCN/amphibian mitigation and habitat enhancement measures in connection with the development of an area of land to the south of Lickers Lane, Halsnead.
- 1.2 The proposed works include the development of an area of land to the south of Lickers Lane, within the Halsnead area. The site is located near residential areas to the north of Lickers Lane and adjacent a park home development and arable land.
- 1.3 At the time of the appraisal terrestrial habitats to be directly impacted by the proposed development comprised amenity grassland, broad-leaved scattered trees, marshy grassland, scrub and semi-natural woodland.
- 1.4 A desk-based review of the study site on Magic.gov showed the nearest record for GCN presence to be 4.2km WSW of the proposed working area. However, it should be noted that a lack of further records does not equal a lack of species. A search of the local planning portal for an adjacent site found that a GCN eDNA survey had been carried out by E3P in 2022, that covered waterbodies also relevant to this study (W1, W2 & W3 and other ponds in the locale which are more than 250 metres from this particular development site).
- 1.5 All ponds identified on OS mapping and aerial imaging of the local area as potentially extant within 500 metres of the proposed development site boundary were considered as part of the ATC appraisal effort.
- 1.6 The review of OS and aerial mapping/imaging and a walk-over inspection of the proposed development site and neighbouring land by an ATC ecologist on 13th August 2023, established that no water-bodies were extant within the areas to be affected by the proposed development.
- 1.7 Six water-bodies (W1 – W6) were considered potentially extant within 250 metres of the proposed area of works. However, Water-body 4 was considered unsuitable for GCN breeding due to flowing water.
- 1.8 The review of OS and aerial mapping/imaging and existing survey data showed further water-bodies in the surrounding areas but these were calculated to be more than 250 metres from the proposed area of works. Two of these were located 263 metres and 310 metres SE of this particular development site, were

found by E3P to be dry in 2022, so are not considered further in relation to this development.

- 1.9 Therefore, based on the terrestrial range of individual GCN (generally <250 metres, occasionally >500 metres, rarely >1 kilometre from their breeding site) and given the suitability and availability of potential dispersal habitat and barriers to GCN dispersal it was considered reasonable to conclude that five water-bodies (W1, W2, W3, W5 & W6) were relevant to the GCN/Amphibian Appraisal. However, access permission was not available to inspect W1, W2 & W3 so descriptions of these waterbodies are not provided, and existing survey data only was considered.
- 1.10 The remaining ponds over 250 metres were therefore not considered relevant and were excluded from the appraisal on the grounds that they are effectively isolated from the proposed development site by distance and/or partial barriers and/or restricted habitat connectivity, and/or their unsuitability for GCN breeding. Any drainage ditches and/or flowing water-bodies bounding the site and adjacent the proposed working area (and/or within 250 metres of the boundary of the proposed development area) were not considered relevant and were excluded from the appraisal on the grounds that they did not offer GCN with suitable aquatic breeding habitat (due to the presence of flowing water and/or no access permission was available).
- 1.11 The methods employed at the proposed development area included visual observation at the proposed area of works, as appropriate to the timing of the visit and the conditions encountered.
- 1.12 Visual observations undertaken during the site walk-over inspection visit did not result in finding any evidence of GCN/amphibians, their eggs and/or larvae at the site.
- 1.13 At the time of the appraisal terrestrial habitat to be directly impacted by the proposed development was assessed to offer GCN with shelter opportunities and foraging and dispersal habitat, categorised by ATC, as predominantly 'Average'.
- 1.14 As part of the survey a GCN 'Habitat Suitability Index' (HSI) score and categorisation was calculated for Water-bodies 5 & 6.
- 1.15 The HSI score calculated for Water-body 5 indicated 'poor' suitability for GCN (0.39), this confirms that it is less likely to support GCN. Visual observations undertaken during the site walk-over inspection visit did not result in the discovery of any evidence of GCN/other amphibians, their eggs and/or larvae being observed at Water-body 5.

- 1.16 The HSI score calculated for Water-body 6 indicated 'poor' suitability for GCN (0.31), this confirms that it is less likely to support GCN. Visual observations undertaken during the site walk-over inspection visit did not result in the discovery of any evidence of GCN/other amphibians, their eggs and/or larvae being observed at Water-body 6.
- 1.17 Based on the results of the current GCN/Amphibian Appraisal and the previous survey data available, it would seem reasonably unlikely that GCN would be present within the areas to be directly impacted by the proposed works.
- 1.18 No GCN breeding sites will be adversely impacted as a consequence of the proposed development.
- 1.19 The proposed development will result in some; modified management/resurfacing, etc., temporary disturbance/partial destruction and reinstatement of immediate (<50 metres), intermediate (50-250 metres) and distant (>250 metres) terrestrial habitat associated with any ponds/water bodies in the local area.
- 1.20 The proposed development would increase the historic and existing level of habitat fragmentation at the site level but would not isolate any GCN population/s or adversely impact on their ability to migrate/disperse and reach their breeding sites.
- 1.21 The development proposals for the site could significantly increase (from current and historic levels) the risk of post-development human interference impacts on any GCN population/s (were they later found to be associated with the local area) and/or aquatic and terrestrial habitats associated with the local area.
- 1.22 The predicted development effect and scale of impact has been assessed, with reference to the English Nature Great Crested Newt Mitigation Guidelines 2001 and, in the absence of appropriate mitigation measures, a predominantly 'low' negative development impact is predicted for any GCN population/s later identified to be associated with any other ponds/water bodies in the local area.
- 1.23 It has been concluded that the unmitigated commencement of development at the site could potentially have adverse impacts on individual GCN and/or other amphibians in the unlikely event that they are present or inadvertently stray into the working area following the commencement of development at the site and take cover under/within temporary shelter habitat incidentally created as a consequence of the works, i.e. excavations, spoil mounds and/or stored materials.

- 1.24 Following careful consideration of the appraisal findings and the predicted predominantly 'low' negative development impacts, the legal protection afforded to the species and current guidance issued by Natural England in respect of low impact development projects, it was deemed appropriate to recommend a GCN/amphibian mitigation strategy involving the implementation of non-licensed Reasonable Avoidance Measures (RAM) and habitat enhancement measures in respect of the proposed development, especially with regard to the potential presence of GCN, common toad, common frog and/or smooth newt.
- 1.25 ATC have concluded that the RAM and habitat enhancement measures proposed and detailed in this report are in accordance with current Natural England guidance and that their successful implementation will effectively minimise the risk of breaching current legislation relating to GCN/amphibians and will aim to ensure that the favourable conservation status of any GCN/amphibian population/s potentially associated with any water-bodies in the local area, are maintained within their natural range.

2.0 INTRODUCTION

- 2.1 Amenity Tree Care (ATC) was commissioned to undertake a great crested newt (GCN)/amphibian habitat appraisal, assess the predicted development effect and formulate appropriate and proportionate GCN/amphibian mitigation and habitat enhancement measures in connection with the development of an area of land to the south of Lickers Lane, Halsnead (SJ 47262 90392).
- 2.2 The ATC 2023 appraisal was led by Dawn Goodfellow BSc (Hons) MCIEEM (Senior Ecologist). Dawn holds a Natural England GCN survey licence (Ref Number 2015-16636-CLS-CLS) and is fully conversant with the English Nature Great Crested Newt Mitigation Guidelines 2001 and GCN guidance issued by Natural England. She has extensive experience gained on development related GCN licensed and non-licensed mitigation and protected species projects since 2001 (refer to Appendix A: Senior Ecologist's Experience & Appendix B: GCN & Protected Species Legislation).

2.3 The objective of the appraisal was to establish:

- The extent, status and relevance of aquatic and terrestrial habitats located at and within 500 metres of the proposed development site;
- GCN presence/likely absence and population size class at the site level and within the local area;
- The predicted development effect and scale of impact on GCN;
- The likely impact of development on the favourable conservation status of any GCN population/s associated with the local area;
- Potential legal and licensing implications in respect of current wildlife legislation relating to GCN;
- Appropriate GCN mitigation and habitat enhancement measures to address the predicted development effect and level of impact on GCN.

2.4 This report should enable the Local Planning Authority to make an informed decision as to whether or not it is possible to discharge their responsibilities under current planning guidance, in respect of GCN and biodiversity, by the implementation of planning condition/s when determining the planning application submitted in respect of the proposed development (refer to Appendix C: Natural England Local Planning Authority GCN Standing Advice Guidance - Flowchart), or to inform other interested parties of their legal obligations.

3.0 SITE DESCRIPTION

3.1 The proposed works include the development of an area of land to the south of Lickers Lane, within the Halsnead area. The site is located near residential areas to the north of Lickers Lane and adjacent a park home development and arable land (refer to Appendix D: Water-body & Site Location Plan & Appendix E: Photographic Plates).

3.2 At the time of the appraisal terrestrial habitats to be directly impacted by the proposed development comprised amenity grassland, broad-leaved scattered trees, marshy grassland, scrub and semi-natural woodland.

3.3 The terrestrial habitat types at the proposed development site, their extent and suitability for GCN/amphibians are detailed in Table 1 below:

Table 1: Development Site Habitat Type, Extent & GCN/Amphibian Suitability

Habitat type	Approximate Area (ha)	Suitability for GCN/Amphibians
Amenity grassland	8.008ha	'Average'
Broad-leaved scattered trees	0.0392ha	'Below Average/Average'
Marshy grassland	0.0802ha	'Average'
Scrub	0.6035ha	'Good'
Semi-natural woodland	1.0791ha	'Good'
Approximate Total Area =	9.81ha	

- 3.4 At the time of the appraisal terrestrial habitat to be directly impacted by the proposed development was assessed to offer GCN with potential shelter, opportunities and foraging and dispersal habitat, categorised by ATC, as predominantly 'Average'.
- 3.5 The terrestrial habitat suitability categorisations used by ATC are based on the Land Habitat Suitability Index (LHSI) developed by Dawn Goodfellow MCIEEM (Senior Ecologist). The LHSI is necessarily a broad interpretative tool that can only provide general guidance when categorising the suitability of terrestrial habitat for GCN/amphibians. The LHSI relies implicitly on the experience and professionalism of the ecologist using the Index for consistency and accuracy. The LHSI has been developed to help standardise GCN/amphibian terrestrial habitat assessments/categorisations and provide more accurate and consistent data to help inform the decision-making process relating to GCN/amphibian mitigation projects (refer to Appendix F: Land Habitat Suitability Index).
- 3.6 A desk-based review of the study site on Magic.gov showed the nearest record for GCN presence to be 4.2km WSW of the proposed working area. However, it should be noted that a lack of further records does not equal a lack of species. A search of the local planning portal for an adjacent site found that a GCN eDNA survey had been carried out by E3P in 2022, that covered waterbodies also relevant to this study (W1, W2 & W3 and other ponds in the locale which are more than 250 metres from this particular development site).

- 3.7 All water bodies identified on OS mapping and aerial imaging of the local area as potentially extant within 500 metres of the proposed development site boundary were considered as part of the ATC appraisal effort.
- 3.8 The review of OS and aerial mapping/imaging and a walk-over inspection of the proposed development site and neighbouring land by an ATC ecologist on 13th August 2023, established that no water-bodies were extant within the areas to be affected by the proposed development.
- 3.9 Six water-bodies (W1 – W6) were considered potentially extant within 250 metres of the proposed area of works. However, Water-body 4 was considered unsuitable for GCN breeding due to flowing water.
- 3.10 The review of OS and aerial mapping/imaging and existing survey data showed further water-bodies in the surrounding areas but these were calculated to be more than 250 metres from the proposed area of works. Two of these were located 263 metres and 310 metres SE of this particular development site, were found by E3P to be dry in 2022, so are not considered further in relation to this development.
- 3.11 Therefore, based on the terrestrial range of individual GCN (generally <250 metres, occasionally >500 metres, rarely >1 kilometre from their breeding site) and given the suitability and availability of potential dispersal habitat and barriers to GCN dispersal it was considered reasonable to conclude that five water-bodies (W1, W2, W3, W5 & W6) were relevant to the GCN/Amphibian Appraisal. However, access permission was not available to inspect W1, W2 & W3 so descriptions of these waterbodies are not provided, and existing survey data only was considered.
- 3.12 The remaining ponds over 250 metres were therefore not considered relevant and were excluded from the appraisal on the grounds that they are effectively isolated from the proposed development site by distance and/or partial barriers and/or restricted habitat connectivity, and/or their unsuitability for GCN breeding. Any drainage ditches and/or flowing water-bodies bounding the site and adjacent the proposed working area (and/or within 250 metres of the boundary of the proposed development area) were not considered relevant and were excluded from the appraisal on the grounds that they did not offer GCN with suitable

aquatic breeding habitat (due to the presence of flowing water and/or no access permission was available).

- 3.13 A brief description of the aquatic habitat at Water-bodies 5 & 6 (included in the GCN/Amphibian Appraisal) has been provided for clarity (refer to Appendix E: Photographic Plates).

Water-body 5 (Grid Reference: SJ 47053 90337):

Approximate area 0.05ha, currently dry, this pond was situated in a small area of woodland adjacent a farm and agricultural land, to the west of the proposed development site. As the water-body is located outside the proposed development site boundary, it will not be lost to the development. The water-body was entirely shaded and supported a limited diversity of aquatic plant species. Waterfowl presence was considered highly unlikely, and as it was dry fish were absent. The landowner stated that the pond only holds water occasionally in the winter period. It was considered highly unlikely that this water body could support GCN/amphibian breeding and no signs of amphibian presence were observed during the survey.

Water-body 6 (Grid Reference: SJ 46902 90335):

Approximate area 0.24ha, current water depth approx. 1.5m, this fishing pond was situated adjacent playing fields and Main Drive, approximately 143 metres west of the proposed development site. As the water-body is located outside the proposed development site boundary, it will not be lost to the development. The water-body was mainly unshaded and supported a limited diversity of aquatic plant species with water quality considered to be poor. Waterfowl presence was considered highly likely and their impacts could be seen on the banks. Fish presence was confirmed by the presence of many anglers at the time of the appraisal, and it was considered that this pond never dries out. It was considered likely that this water body could support some amphibian breeding (most likely common toads and frogs), although no signs of amphibian presence were observed during the survey.

- 3.14 During the site walk-over inspection visit and assessment of aerial mapping, it was noted that several, private, residential gardens were located within 500 metres of the area/s of works. It was considered possible that some of these

gardens may also contain ponds/ornamental water features potentially used by GCN/amphibians. However, given the extensive experience of Amenity with similar projects, it was not considered logistically achievable to establish the presence of and/or incorporate all neighbouring garden ponds/ornamental water features into the survey effort.

- 3.15 The potential presence of GCN/amphibians within neighbouring grounds and their use of unmapped water-bodies/water features (as detailed in the publication 'Newts in your Pond and Garden', Grundy 2007) was fully considered when assessing the predicted development effect and scale of impact, and formulating appropriate mitigation and habitat enhancement measures to address the development impacts.

4.0 APPRAISAL METHODS

- 4.1 A GCN aquatic appraisal and terrestrial appraisal, undertaken in respect of proposed development, should be carried out by a suitably licensed ecologist and employ a combination of recognised methodologies, as appropriate to the conditions encountered and in accordance with the appraisal objectives. The predicted development effect and scale of impact on GCN and their breeding, shelter, foraging and dispersal habitat should be assessed and appropriate mitigation and habitat enhancement measures, to address the development impacts, formulated as part of the appraisal effort.
- 4.2 The English Nature Great Crested Newt Mitigation Guidelines 2001 (EN GCN MG) indicates that a GCN survey may be necessary to check for the presence of the species if background information on distribution suggests that they may be present. Detailed indicators include:
- Any historical records for GCN on the site, or in the general area
 - A pond on or near the site (within around 500m), even if it holds water only seasonally. Note that muddy, cattle-poached, heavily vegetated or shaded ponds, ditches and temporary flooded hollows can be used by GCN

- Sites with refuges (such as piles of logs or rubble), grassland, scrub, woodland, or hedgerows within five hundred metres of a pond
- 4.3 The EN GCN MG recommend that, if access permission can be obtained, a GCN presence/likely absence aquatic survey should consist of four visits, carried out on non-consecutive nights, in appropriate weather conditions, at the appropriate time of year (mid-March to mid-June) and should ideally include all of the water bodies identified as relevant within the survey area. At least two of the survey visits should be undertaken between mid-April and mid-May.
- 4.4 The currently recommended GCN presence/likely absence aquatic survey methods include GCN egg search, torch survey, bottle trapping and hand netting. The EN GCN MG recommend that, where practicable to do so, a combination of three of the four methods should be employed at each water body. Natural England advises that a GCN 'Habitat Suitability Index' score (refer to Appendix G: GCN Appraisal/Survey Methods; Oldham *et al* (2000)), is calculated for all water-bodies subject to a GCN survey.
- 4.5 The EN GCN MG indicate that four visits, resulting in consistent negative findings and undertaken in accordance with EN GCN MG aquatic survey methodology, represents sufficient effort to robustly establish GCN 'likely absence' at a water body.
- 4.6 The EN GCN MG recommend that, where access permission can be obtained, a GCN population size class assessment aquatic survey (generally required to inform a GCN mitigation licence application for large scale, moderate/high impact development projects) should consist of six visits, carried out on non-consecutive nights, in appropriate weather conditions, at the appropriate time of year (mid-March to mid-June) to all the water bodies within the survey area where GCN presence has been established. At least three of the visits should be undertaken between mid-April and mid-May.
- 4.7 The GCN population size class is derived from the peak count. This is the combined sum of the highest number of adult GCN observed or captured during the same visit. GCN population size class based on the EN GCN MG categorisations are shown below.

- Small population size class: 1 to 10 individual adult GCN
- Medium population size class: 11 to 100 individual adult GCN
- Large population size class: 100 plus individual adult GCN

- 4.8 However, it should be noted that establishing GCN presence at a site may only require a single visit, especially if using the relatively new method of water sampling for GCN eDNA. When GCN inhabit a pond, cells containing their DNA are continually sloughed off into the water. Samples from the water column, taken by a licensed ecologist, are later analysed in a controlled laboratory environment to investigate whether GCN have recently been present in the pond (or not). Collection of samples for GCN eDNA analysis can only be undertaken between 15th April and 30th June if they are to provide a robust negative result.
- 4.9 Likewise, the discovery of adult and/or sub-adult GCN/amphibians within a water body or terrestrially would also confirm that they are associated with the site. The discovery of GCN/amphibian eggs, spawn, larvae or tadpoles is sufficient to confirm that a water body is a breeding site for that species.
- 4.10 Where access permission to inspect a water body cannot be obtained and/or it is not possible to undertake survey effort at the appropriate time of year (mid-March to mid-June) and/or a size class survey is not deemed appropriate based on the predicted development impacts, the likely GCN population size class associated with a site can generally be reliably predicted, by an experienced GCN ecologist, using historic records and/or the local status of the species combined with an assessment of the availability and suitability of aquatic and terrestrial habitats at, and neighbouring the site.
- 4.11 To supplement GCN aquatic appraisal/survey efforts, a combination of terrestrial refugia searches can sometimes be employed in order to establish the presence of sheltering and/or foraging GCN at the site level. Such searches should be undertaken at the appropriate time of year, during appropriate weather conditions when GCN adults and sub-adults are likely to be active in their terrestrial phases.
- 4.12 It should be noted that findings indicating GCN likely absence, based entirely on terrestrial survey methods, should be interpreted with caution as GCN may avoid detection during the survey period.

- 4.13 The ATC 2023 GCN appraisal was led by Dawn Goodfellow BSc (Hons) MCIEEM (Senior Ecologist) who conducted the appraisal site visit. The survey effort deemed appropriate in respect of the proposed development was a GCN/amphibian and terrestrial habitat appraisal. As part of the survey a GCN 'Habitat Suitability Index' (HSI) score (Oldham *et al*, 2000) and categorisation was also calculated for Water-bodies 5 & 6.
- 4.14 The appraisal was undertaken in accordance with the terms and conditions of a GCN Class Licence (Class Licence WML-CL08 Registration: No. 2015-16636-CLS-CLS). The appraisal effort included a review of OS and aerial mapping/imaging, a review of previous recent survey data and a daytime walk-over inspection of the site (and netting of Waterbody 6 to calculate the HSI), by an ATC ecologist, in order to assess the status of habitats at the proposed area of works.
- 4.15 The GCN/amphibian appraisal involving a single daytime appraisal site visit was carried out by Dawn Goodfellow, Senior Ecologist at ATC, on 13th August 2023.
- 4.16 The methods employed at the proposed development area included visual observation at the proposed area of works, as appropriate to the timing of the visit and the conditions encountered.
- 4.17 As part of the appraisal effort, the predicted development effect and scale of impact on GCN/amphibians and their breeding, shelter, foraging and dispersal habitat was assessed and appropriate GCN/amphibian mitigation and habitat enhancement measures formulated.

5.0 APPRAISAL RESULTS

- 5.1 The significant GCN appraisal/survey effort expended by ecological consultancies and various conservation groups/organisations in the north-west area, since the early 1980s, has established that the local status of GCN (defined by Natural England as within 10 kilometres) can best be categorised as: frequent and widespread.

- 5.2 The GCN population size class associated with the majority of GCN breeding sites in the north-west area can be typically categorised as 'small' to 'medium'.
- 5.3 The occurrence of breeding sites supporting a 'large' GCN population size class is considered to be atypical and unusual. However, as a consequence of the widespread status of the species within the north-west area, it is not unusual for 'small' or 'medium' GCN populations associated with a breeding site to form part of GCN 'meta-populations' associated with the local area.
- 5.4 The main findings of the ATC 2023 GCN appraisal undertaken in relation to the proposed development of Land to the south of Lickers Lane, Halsnead are detailed below:
1. A desk-based review of the study site on Magic.gov showed the nearest record for GCN presence to be 4.2km WSW of the proposed working area. However, it should be noted that a lack of further records does not equal a lack of species.
 2. Visual observations undertaken during the site walk-over inspection visit did not result in finding any evidence of GCN/amphibians, their eggs and/or larvae at the proposed development area.
 3. At the time of the appraisal terrestrial habitat to be directly impacted by the proposed development was assessed to offer GCN with shelter opportunities and foraging and dispersal habitat, categorised by ATC, as predominantly 'Average'.
 4. Due to the recent GCN eDNA survey undertaken by E3P during 2022 for the adjacent development, which surveyed both Waterbody 2 and Waterbody 3 and found them to be negative for GCN. Unfortunately, no access permission was available to assess these waterbodies, but the existing survey data remains valid until 2024.
 5. During the same survey E3P also found Waterbody 1 to be dry and considered unsuitable for GCN. Unfortunately, no access permission was available to assess this waterbody to see if it is still dry, but the existing survey data remains valid until 2024.

6. The 2023 GCN/Amphibian Appraisal found Waterbody 4 to be a flowing ditch, and therefore considered unsuitable for GCN breeding. HSI's should not be calculated for ditches.
 7. The 2023 GCN/Amphibian Appraisal found Waterbody 5 to be dry and therefore considered unsuitable for GCN breeding during the current year. The HSI score calculated for Water-body 5 indicated 'poor' suitability for GCN (0.39), this confirms that it is less likely to support GCN.
 8. The 2023 GCN/Amphibian Appraisal found Waterbody 6 to be holding water, but was found to be a local fishing lake, and was therefore considered unsuitable for GCN breeding. The HSI score calculated for Water-body 6 indicated 'poor' suitability for GCN (0.31) , this confirms that it is less likely to support GCN.
 9. Based on the combination of the above factors, it would seem reasonably unlikely that GCN would be present within the areas to be directly impacted by the proposed works.
- 5.5 The GCN 'Habitat Suitability Index' scores/categorisation for Waterbodies 5 & 6, is detailed in Table 2 below:

Table 2: HSI score/categorisation (Water-bodies 5 & 6)

	Waterbody 5	Waterbody 6
Pond Ref:		
SI1 - Location	1	1
SI2 - Pond area	0.05	0.8
SI3 - Pond drying	0.1	0.9
SI4 - Water quality	0.33	0.33
SI4 - Shade	0.2	1
SI6 - Fowl	1	0.01
SI7 - Fish	1	0.01
SI8 - Ponds	0.9	0.9
SI9 - Terr'l habitat	1	0.67
SI10 - Macrophytes	0.3	0.5
HSI	0.39	0.31
Categorisation	Poor	Poor

NB: <0.5 poor, 0.5-0.59 below average, 0.6-0.69 average, 0.7-0.79 good, >0.8 excellent

- 5.6 Based on the ATC 2023 GCN appraisal findings it was concluded that sufficient information was available to allow the predicted development effect and scale of impact on any GCN population/s should they later be identified to be associated with the proposed development area, and/or other water bodies in the local area, to be reliably assessed.

6.0 PREDICTED DEVELOPMENT EFFECT & SCALE OF IMPACT

- 6.1 The predicted development effect and scale of impact has been assessed, with reference to the English Nature Great Crested Newt Mitigation Guidelines 2001 and, in the absence of appropriate mitigation measures, a predominantly 'low' negative development impact is predicted for any GCN population/s that may later identified to be associated with any water bodies in the local area.

1. No GCN/amphibian breeding sites are likely to be adversely impacted as a consequence of the proposed development.
2. The proposed development will result in some; modified management/resurfacing, etc., temporary disturbance/partial destruction and reinstatement of immediate (<50 metres), intermediate (50-250 metres) and distant (>250 metres) terrestrial habitat associated with any ponds/water bodies in the local area.
3. The proposed development would increase the historic and existing level of habitat fragmentation at the site level but would not isolate any GCN population/s or adversely impact on their ability to migrate/disperse and reach their breeding sites.
4. The development proposals for the site could significantly increase (from current and historic levels) the risk of post-development human interference impacts on any GCN population/s (were they later found to be associated with the local area) and/or aquatic and terrestrial habitats associated with the local area.

The predicted development effect and impacts are detailed/highlighted (blue) in Table 3 below (adapted from the EN GCN MG).

Table 3: Summarising the scale of main impacts on GCN at the site level

Habitat Feature	Development Effect	Scale of Impact		
		Low	Medium	High
Confirmed GCN breeding pond/water body	Destruction			✓
	Isolation caused by fragmentation			✓
	Partial destruction; modification		✓	
	Temporary disturbance	✓		
	Post-development interference			✓
Other pond or water body	Destruction		✓	
	Isolation caused by fragmentation		✓	
	Partial destruction; modification	✓		
	Temporary disturbance	✓		
	Post-development interference	✓		
Immediate Terrestrial Habitat (less than 50 metres from a GCN/breeding pond or other water body likely to be used by the species)	Destruction			✓
	Isolation caused by fragmentation			✓
	Partial destruction		✓	
	Modified management, resurfacing etc.		✓	
	Temporary disturbance	✓		
	Post-development interference		✓	
	Temporary destruction & reinstatement	✓		
Intermediate Terrestrial Habitat: (at a distance of 50 metres up to 250 metres from a GCN/breeding pond or other water body likely to be used by the species)	Destruction		✓	
	Isolation caused by fragmentation		✓	
	Partial destruction	✓		
	Modified management, resurfacing, etc.	✓		
	Temporary disturbance	✓		
	Post-development interference	✓		
	Temporary destruction & reinstatement	✓		
Distant Terrestrial Habitat (more than 250 metres from a GCN/breeding pond or other water body likely to be used by the species)	Destruction	✓		
	Isolation caused by fragmentation	✓		
	Partial destruction	✓		
	Modified management, resurfacing etc.	✓		
	Temporary disturbance	✓		
	Post-development interference	✓		
	Temporary destruction & reinstatement	✓		

6.2 It has been concluded that the unmitigated commencement of development at the site could potentially have adverse impacts on individual GCN and/or other amphibians in the unlikely event that they are present or inadvertently stray into the working area following the commencement of development at the site and take cover under/within temporary shelter habitat incidentally created as a consequence of the works.

6.3 Following careful consideration of the appraisal findings and the predicted predominantly 'low' negative development impacts, the legal protection afforded to the species and current guidance issued by Natural England in respect of low impact development projects, it was deemed appropriate to recommend a GCN/amphibian mitigation strategy involving the implementation of non-licensed Reasonable Avoidance Measures (RAM) and habitat enhancement measures in

respect of the proposed development, especially with regard to the potential presence of GCN, common toad, common frog and/or smooth newt.

7.0 RECOMMENDED GCN MITIGATION STRATEGY

7.1 ATC have concluded that the RAM and habitat enhancement measures proposed and detailed below are in accordance with current Natural England guidance and that their successful implementation will effectively minimise the risk of breaching current legislation relating to GCN and will aim to ensure that the favourable conservation status of any GCN population/s potentially associated with any water-bodies in the local area is maintained within their natural range.

7.2 Current Natural England GCN guidance states:

“In recent years there has been a trend towards increasingly precautionary licence applications, resulting from a risk-averse approach to mitigation. Whilst considering potential risks to great crested newts is laudable, many recent mitigation schemes were designed for developments that actually had very little or no effect on the newt population. In part this is because it can be difficult to assess whether newts will be affected by certain activities, especially when they take place at some distance from breeding ponds. Newts tend to be present at increasingly low density the further one looks from ponds, and the task of detecting and capturing them becomes more problematic. Further from ponds, there is a corresponding reduction in the scale of impact on populations. Given that great crested newts can disperse over 1km from breeding ponds, the potential for offences may seem vast, yet the probability of an offence outside the core breeding and resting area is often rather small, and even if an offence takes place, the effect on the population may be negligible’.

‘Natural England is concerned about the trend for increasingly risk-averse mitigation for several reasons. Primarily, there is no legal need, and little benefit to great crested newt conservation, in undertaking mitigation where there are no offences through development. Even where there technically is an offence, such as the destruction of a small, distant area of resting place habitat, or even killing low numbers of newts, it is arguable that impacts beyond the core area often have little or no tangible impact on the viability of populations. Mitigation in such circumstances is of questionable value in conservation terms. There are,

however, substantial costs: developers delay projects and spend large sums on mitigation. Sometimes the mitigation project itself has environmental costs, especially when it entails substantial lengths of newt fencing. In some cases long newt fences are employed with no justification. Natural England wishes to see newt fencing used more appropriately, i.e. only where there is a reasonable risk of capturing, containing and/or excluding newts’.

‘Natural England recognises that the two key factors leading consultants to adopt this risk-averse approach are: (a) uncertainty over the presence of newts and whether there will be an offence in areas distant from ponds; (b) undertaking mitigation under licence "just in case", so that there is no perceived risk of litigation for their client. Natural England wishes to see mitigation planning shift away from such a highly risk-averse starting point. The domestic legislation protecting great crested newts arises largely from the Habitats Directive, which has a central aim to restore scheduled species to a favourable conservation status. A more proportionate approach to mitigation, addressing tangible impacts on populations whilst giving lower priority to negligible effects, is consistent with the aims of the Directive. It remains the responsibility of the developer - normally acting through their ecological consultant - to decide whether to apply. Early consideration of options including the implementation of reasonable avoidance measures can often result in no licence being required’.

Reasonable Avoidance Measures to be Implemented:

1. Prior to commencing development at the area a suitably experienced and GCN licensed consultant ecologist should be appointed by the developer to ensure that the RAM are successfully implemented.
2. The RAM will be implemented as deemed appropriate by the appointed ecologist. A copy of this report and supporting materials including GCN/other amphibian identification sheets and ‘on call’ ecologist contact details should be kept on-site and available for inspection during development related works at the site.
3. Prior to any development related works commencing at the site the developer/contractors should undergo a site induction/tool box talk where the implications arising from the presence of GCN/other amphibians within the local area and the need to implement the RAM detailed in this report should be fully explained by the appointed ecologist.

4. The timing of the development works and implementation of RAM will, where practicable to do so, encompass daylight hours and the period when the majority of GCN/other amphibians are considered likely to be at their breeding sites and/or not active above ground. Consequently, the risk of GCN/other amphibians being adversely impacted by the works will be minimised.
5. Prior to any vegetation clearance and/or ground disturbance works commencing at the site, the extent of works should be agreed by the appointed ecologist and the developer/contractors.
6. All trees and hedgerows that are required to be retained at or neighbouring the development site should be protected from direct impact and severance or asphyxiation of root systems. Any ground disturbance works should only take place at a minimum distance from individual trees of branch spread or half-tree height, (whichever is the greater).
7. Any required tree and hedgerow protection measures should be implemented in accordance with current best practice recommendations and guidance.
8. Terrestrial habitat protection measures, including the use of exclusion zones, should be implemented as deemed appropriate. The appointed ecologist and the developer/contractors should identify, agree and appropriately secure any required terrestrial habitat exclusion zones prior to the commencement of development works at the site.
9. Vegetation removal/management may be used to discourage GCN/other amphibians from entering areas of the development site that are to be subject to significant ground disturbance works.
10. Where vegetation removal/management works, with the potential to disturb nesting birds, including the required removal of trees and/or hedgerows at the development site, cannot be scheduled outside of the bird nesting season (March to September) the appointed ecologist or their accredited agent should carry out a nesting bird survey at, and neighbouring, the proposed area of works.
11. A nesting bird survey should be undertaken immediately prior to the commencement of any significant vegetation/tree/shrub/bramble removal works at the development site between March and September.
12. In the event that nesting birds are found to be present at the development site, it will be necessary to formulate and implement a mitigation strategy (dependent on the bird species) to address their presence and prevent any disturbance to the nest site and a breach of wildlife legislation.
13. To minimise the risk to GCN/other amphibians during vegetation removal/management works hand-held trimmers and/or brush-cutters or low

ground impact machinery i.e. quad and flail should be used. This will prevent ground compaction and any inadvertent damage to the areas of terrestrial habitat/vegetation at and adjacent the development site that is to be retained.

14. In accordance with best practice recommendations all vegetation removal works should ideally be undertaken in stages and under the supervision of the appointed ecologist or their accredited agent to limit disturbance and allow animals to safely vacate the area.
15. The appointed ecologist and the developer/contractors should ensure that no areas of aquatic or terrestrial habitat that are to be retained at/adjacent/neighbouring the development site are inadvertently lost or damaged as a consequence of the development works.
16. A search of any potential places of refuge within the development site should be carried out (where practicable to do so) by the appointed ecologist or their accredited agent immediately prior to the commencement of any significant ground disturbance works at the site in order to check for sheltering GCN/amphibians. The search must be undertaken under the terms/conditions of a current GCN class licence.
17. As deemed appropriate by the appointed ecologist, items of potential refuge should be removed from the development site immediately following the search to prevent GCN/amphibians from seeking shelter either beneath or within them.
18. The development site, together with any on-site storage/lay down areas, should be kept clear of debris and, where practicable; stored materials should be kept off the ground on stillages or pallets so as to prevent GCN/amphibians from seeking shelter or protection under/within them.
19. Where materials need to be delivered to the development site for immediate use and/or temporary storage, directly on the ground, care should be taken not to cause unnecessary or inadvertent damage or disturbance to neighbouring terrestrial habitat.
20. Any skips or bins, if used, should ideally be stored on baulks of timber to keep them off the ground so as to prevent GCN/amphibians from seeking shelter under them.
21. In the event that spoil needs to be removed from the development site, it should be taken off-site at the earliest opportunity for appropriate disposal.
22. The appointed ecologist should advise the developer/contractor to consider potential bio-security issues relating to the import and removal of material at the development site and the need to undertake a bio-security risk assessment and/or implement measures to prevent the inadvertent spread of non-native species, disease and biological pathogens.

23. Should any excavation/s be left open overnight for any reason, the excavation/s should be searched and checked for sheltering GCN/amphibians. The search should be carried out by the appointed ecologist or their accredited agent before works re-commence.
24. All open excavations should ideally incorporate soil 'ramps' at either end to allow GCN/amphibians and small mammals falling into them to escape.
25. Wherever practicable, excavations should be in-filled and made good to ground level at the earliest opportunity, so as to remove any hazard to GCN/amphibians.
26. Should spoil/materials be left on the ground overnight they may require searching for sheltering GCN/amphibians by the appointed ecologist or their accredited agent before they are moved.
27. Temporary Amphibian Fencing (TAF) is occasionally used at development sites in order to discourage GCN/amphibians from entering the working area and taking shelter within open excavations, disturbed ground, spoil mounds created as a consequence of the development works, **however it has been deemed unlikely to be necessary at this particular site due to a lack of suitable breeding habitat in the vicinity.**
28. In accordance with current Natural England and best practice guidance, the use of TAF (upright and/or one-way) at development sites is at the discretion of the appointed ecologist and for a limited period until the works are complete.
29. TAF should only ever be used as a short-term measure where it is considered likely to reduce the risk of injury to GCN/amphibians and where its use would have no significant impact on their ability to migrate/disperse and reach their breeding/shelter sites. The use of one-way TAF would allow amphibians and/or other wildlife, i.e. small mammals, to safely vacate the site into the local area and will prevent them re-entering the working area.
30. TAF installation, inspections, maintenance and removal, if used, should be carried out by the appointed ecologist or their accredited agent in accordance with current Natural England and best practice guidance.
31. In respect of the proposed development, the short-term installation of TAF (upright and/or one-way) at the development site would, in the view of ATC, not result in substantial interference to the dispersal routes of GCN/amphibians and would be unlikely to result in a breach of current legislation relating to GCN.
32. Where used, TAF needs to be inspected on a regular basis and maintained in good order. A detailed record should be kept of the TAF installation date, rationale for its use, the dates of the inspection visits and any repairs undertaken.
33. Should amphibians (other than GCN) be found terrestrially at the development site they will be captured by hand and may be held captive for a short period in

secure, clean container/s lined with damp moss prior to their release into suitable cover adjacent the site boundary, as deemed appropriate by the appointed ecologist.

34. If more than one amphibian species is found (other than GCN) they should be kept in separate secure, clean container/s lined with damp moss to avoid injury and/or predation. Amphibian capture should be carried out by the appointed ecologist or their accredited agent.
35. In the event that ecological supervision is not present on-site when an amphibian is found terrestrially the developer/contractor should place the amphibian/s into the secure, clean container/s lined with damp moss provided by the appointed ecologist and to be kept on-site for such an eventuality. The appointed ecologist or their accredited agent should be contacted immediately (using the 'on call' service, if appropriate) for advice on release and to ensure that the amphibian species is correctly identified/recorded.
36. The winter hibernation/dormancy period for amphibians is generally accepted to run from November to February, with hibernation/dormancy for individual amphibians usually commencing following the first hard winter frost. Consequently, any work which is likely to result in the disturbance of a potential amphibian hibernation site should not be scheduled or undertaken between November and February or during any periods of cold or frosty weather outside of this period when amphibians are likely to be hibernating/dormant. Should such works be required the appointed ecologist will formulate and implement appropriate measures to minimise the risks to hibernating amphibians and ensure their safety.
37. The implementation of the mitigation strategy detailed in this report should be undertaken with due regard and consideration for the potential presence of other species at or neighbouring the development site.
38. **The mitigation strategy proposed does not allow GCN to be captured or removed from the site and released at another location.** In the unlikely event that GCN are found within the development site work must stop and the appointed ecologist and/or Natural England immediately contacted for advice on how to proceed.

- 7.3 Natural England GCN guidance relating to the licensed and non-licensed use of TAF states:

“Natural England cannot tell you whether to erect TAF, whether to apply for a licence, ‘approve’ the installation of TAF without a licence or whether any offences would be committed by doing so. It is for the person in charge of the scheme, normally through their ecological consultant, to decide on these

matters'. Natural England indicates that 'in only very limited circumstances, is it feasible that installing TAF would probably not result in an offence, and therefore no licence would be required. This could include cases where both the following criteria are met:

- *There is no habitat suitable for shelter or protection in the area subject to potentially harmful activities.*
- *The layout of the TAF would not result in substantial interference to the dispersal routes of great crested newts.*

The chance of an offence being committed increases close to breeding ponds and suitable habitats that can be used as hibernation or daytime refuge sites. For example, no offence is likely if the area to be fenced were a small tarmac car park, supporting no resting place habitat and not situated in between a breeding pond and key terrestrial habitat patches".

- 7.4 In respect of the proposed development area at Land to the south of Lickers Lane, Halshead terrestrial habitats to be directly impacted by the proposed development works (i.e. amenity grassland, broad-leaved scattered trees, marshy grassland, scrub and semi-natural woodland) were assessed to offer GCN with shelter, opportunities and foraging and dispersal habitat, categorised by ATC, as predominantly 'Average'.
- 7.5 The development site is not situated between a breeding pond and key terrestrial habitat patches. In this instance, the short-term installation of TAF at the development site would, in the view of ATC, not result in substantial interference to the dispersal routes of great crested newts and therefore meets the very limited circumstances criteria as defined by Natural England, **however it has been deemed unlikely to be necessary at this particular site.**
- 7.6 The implementation of specific habitat enhancement measures, habitat features and monitoring specifically for GCN/amphibians is considered appropriate in relation to the proposed development. The proposed measures are detailed below.

7.7 Proposed Habitat Enhancement Measures:

1. Habitat connectivity measures will be retained wherever possible as part of the development and will help to maintain links with the local area. The connectivity measures proposed include; the retention/enhancement of any existing boundary hedgerows/vegetation with additional native species planting, as practicable and deemed appropriate by the appointed ecologist.
2. Any required gapping up of retained boundary hedgerow/s will be undertaken using a number of UK native species of local provenance such as; common hawthorn (*Crataegus monogyna*), field maple (*Acer campestre*), alder (*Alnus glutinosa*), hazel (*Corylus avellana*), crab apple (*Malus sylvestris*), field rose (*Rosa arvensis*) wild cherry (*Prunus avium*), holly (*Ilex aquifolium*) or guelder rose (*Viburnum opulus*). This will help to maintain and strengthen existing wildlife dispersal/flight corridors and increase foraging, shelter and nesting/roosting opportunities for a wide variety of species.
3. Future habitat/enhancement management works at/neighbouring the site will be informed by current best practice relating to the long-term management of GCN aquatic and terrestrial habitats as detailed in the EN GCN MG and The Great Crested Newt Conservation Handbook. This would also suit the needs of other amphibian species.

- 7.8 The land-owner will be responsible for adequately resourcing and ensuring the successful implementation of the GCN mitigation and habitat enhancement measures strategy detailed above. Appropriate resources will be made available by the developer/landowner to ensure that any required future habitat management works at the site are successfully delivered.

8.0 CONCLUSIONS

- 8.1 Terrestrial habitats at the proposed development site to be directly impacted by the proposed development were assessed by ATC as offering GCN with shelter, opportunities and foraging and dispersal habitat, categorised by ATC, as predominantly 'Average'.

- 8.2 No GCN/amphibian breeding sites will be adversely impacted as a consequence of the proposed development.
- 8.3 The proposed development will result in some; modified management/resurfacing, etc., temporary disturbance/partial destruction & reinstatement of immediate (<50 metres), intermediate (50-250 metres) and distant (>250 metres) terrestrial habitat associated with any water-bodies in the surrounding area.
- 8.4 The predicted development effect and scale of impact has been assessed, with reference to the English Nature Great Crested Newt Mitigation Guidelines 2001 and, in the absence of appropriate mitigation measures, a predominantly 'low' negative development impact is predicted for any GCN population/s later identified to be associated with any water bodies in the local area.
- 8.5 It has been concluded that the unmitigated commencement of development at the site could potentially have adverse impacts on individual GCN and/or other amphibians in the unlikely event that they are present or inadvertently stray into the working area following the commencement of development and take cover under/within temporary shelter habitat incidentally created as a consequence of the works.
- 8.6 Following careful consideration of the appraisal findings and the predicted predominantly 'low' negative development impacts, the legal protection afforded to the species and current guidance issued by Natural England in respect of low impact development projects, it was deemed appropriate to recommend a GCN/amphibian mitigation strategy involving the implementation of non-licensed Reasonable Avoidance Measures (RAM) and habitat enhancement measures in respect of the proposed development, especially with regard to the potential presence of GCN, common toad, common frog and/or smooth newt.
- 8.7 ATC have concluded that the RAM and habitat enhancement measures proposed and detailed in this report are in accordance with current Natural England guidance and that their successful implementation will effectively minimise the risk of breaching current legislation relating to GCN/amphibians and will aim to ensure that the favourable conservation status of any GCN/amphibian population potentially associated with water-bodies in the local area are maintained within their natural range.

9.0 REFERENCES

E3P (25/07/2022) *Great Crested Newt Surveys – Lickers Lane, Halshead (Ref: 80-571-L1-1) – for Vistry Partnerships*.

English Nature (2001) *Great Crested Newt Mitigation Guidelines*. Peterborough: English Nature.

Grundy J. (2007) *Newts in Your Pond and Garden*.

Oldham *et al.* (2000) *Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus)*. Herpetological Journal 10(4), 143-155.

Natural England Guidance: Template for Method Statement to support application for licence under Regulation 53(2)(e) in respect of great crested newts *Triturus cristatus*. Form WML-A14-2 (Version April 13).

APPENDICES

Appendix A: Senior Ecologist's Experience

Dawn Goodfellow BSc (Hons) MCIEEM is a Senior Ecologist, licensed to survey for great crested newts in both England and Wales and works alongside a dedicated team of motivated, professional and highly experienced ecologists and field team workers, with the focus on the delivery of quality survey reports and, where required, mitigation for protected species for projects across northern England and North Wales. She holds a Natural England GCN survey class licence WML-CL08 Reg No. 2015-16636-CLS-CLS, a Natural Resources Wales GCN survey licence (Ref No.: 57238:OTH:SA:2014) and has held both English and Welsh GCN mitigation licences as well as being one of the first ecologists to have had projects accepted onto the GCN District Licensing Scheme in Cheshire East.

Dawn has been involved with a large number of GCN and amphibian-related projects in various capacities and roles since 2001. She is fully conversant with current wildlife legislation relating to GCN and other protected species and the responsibilities of Local Planning Authorities in respect of protected species and biodiversity. As a professional ecologist and Full Member of the Chartered Institute of Ecology and Environmental Management (CIEEM) she adheres to their Code of Professional Conduct. She regularly employs the methodologies detailed in the English Nature Great Crested Newt Mitigation Guidelines, 2001 (EN GCN MG). Dawn also has extensive experience of the Local Authority planning process and the Natural England and Natural Resources Wales GCN/protected species licensing systems and has developed good working relationships with Local Authority Officers and Natural England and Natural Resources Wales protected species licensing advisors. She has also acted as expert witness (Appellant) and produced supporting evidence in respect of ecology for a successful planning appeal.

Since early 2014 Dawn has been instrumental in developing GCN Appraisal reports for use on 'low' impact developments with regard to GCN, i.e. those not considered likely to have a significant effect on the favourable conservation status of GCN. In this capacity Dawn helped to design appropriate mitigation and habitat compensation measures to address 'low' development impacts. Where deemed appropriate, and in accordance with current Natural England and Natural Resources Wales GCN/protected species guidelines and standing advice, Dawn takes a considered and proportionate approach to the formulation and implementation of GCN/protected species mitigation measures. As part of a wider team Dawn has successfully delivered to date over 68 non-licensed (Reasonable Avoidance Measures) GCN mitigation strategies in respect of development-related projects.

Appendix B: GCN & Amphibian Legislation

Species/Habitat	Protected by:	UK BAP
Common frog	Provision 5 of Section 9 of the <i>Wildlife and Countryside Act</i> , 1981 (as amended)	No
Common toad	Provision 5 of Section 9 of the <i>Wildlife and Countryside Act</i> , 1981 (as amended) Section 41 of the <i>Natural Environment and Rural Communities (NERC) Act</i> , 2006	Yes
Great crested newt	Regulation 41 of <i>The Conservation of Habitats and Species (Amendment) Regulations</i> , 2012 Section 9 of the <i>Wildlife and Countryside Act</i> , 1981 (as amended) Section 41 of the <i>Natural Environment and Rural Communities (NERC) Act</i> , 2006	Yes
Smooth newt	Provision 5 of Section 9 of the <i>Wildlife and Countryside Act</i> , 1981 (as amended)	No

The Conservation of Habitats and Species Regulations, 2010

European protected species are listed on Schedule 2 of the *Conservation of Habitats and Species Regulations* 2010. Those species listed on Schedule 2 are protected under Regulation 41, which refers to the protection of wild animals of a European Protected Species. The following is a summary of the offences listed under Regulation 41, however, the *Conservation Regulations* should always be referred to for the exact and current wording:

Under Regulation 41 of the *Conservation of Habitats and Species Regulations*, 2010 it is an offence to –

- deliberately capture or kill a wild animal of a European protected species;
- deliberately disturb wild animals, in particular any disturbance which is likely:
 - to impair their ability to survive, to breed or reproduce, or to rear or nurture their young; or
 - to impair their ability, in the case of animals of a hibernating or migratory species, to hibernate or migrate;
 - to affect significantly the local distribution or abundance of the species to which they belong
- deliberately take or destroy the eggs of such an animal; or
- damage or destroy a breeding site or resting place of such an animal.
- keep, transport, sell or exchange, or offer for sale or exchange, any live or dead wild animal of a European protected species, or any part of, or anything derived from, such an animal.

Wildlife and Countryside Act, 1981 (as amended)

British protected species of animal are listed on Schedule 5 of the *Wildlife and Countryside Act*, 1981 (as amended). Those species listed on Schedule 5 are protected under Part 1, Section 9, which refers to the protection of certain wild animals. The following is a summary of the

offences listed under Section 9; however the Act should always be referred to for the exact and current wording:

Under Section 9 of the *Wildlife and Countryside Act, 1981* (as amended) if any person –

- intentionally kills, injures or takes any wild animal included in Schedule 5;
- has in his possession or control any live or dead wild animal included in Schedule 5 or any part of, or anything derived from such an animal;
- intentionally or recklessly damages or destroys, or obstructs access to, any structure or place which any wild animal included in Schedule 5 uses for shelter or protection;
- disturbs any such animal included in Schedule 5 while it is occupying a structure or place which it uses for that purpose;
- sells, offers or exposes for sale, or has in his possession or transports for the purpose of sale, any live or dead wild animal included in Schedule 5, or any part of, or anything derived from, such an animal; or,
- publishes or causes to be published any advertisement likely to be understood as conveying that he buys or sells, or intends to buy or sell, any of those things, he shall be guilty of an offence.

This legislation applies to all life stages of GCN. Heavy fines (up to £5,000 per incident) can be imposed for **each** offence, and a prison sentence of up to 6 months for each offence can be given to any person found guilty of an offence. In certain circumstances, any machine, tool or implement involved in an illegal act can also be seized.

Natural England (NE) issue licences for the disturbance of European Protected Species including GCN, certain criteria must be met before a licence can be issued to enable otherwise prohibited works to proceed. Such criteria may be subject to change without notice. For further information please visit www.naturalengland.org.uk

The Natural Environment and Rural Communities (NERC) Act, 2006 (as amended)

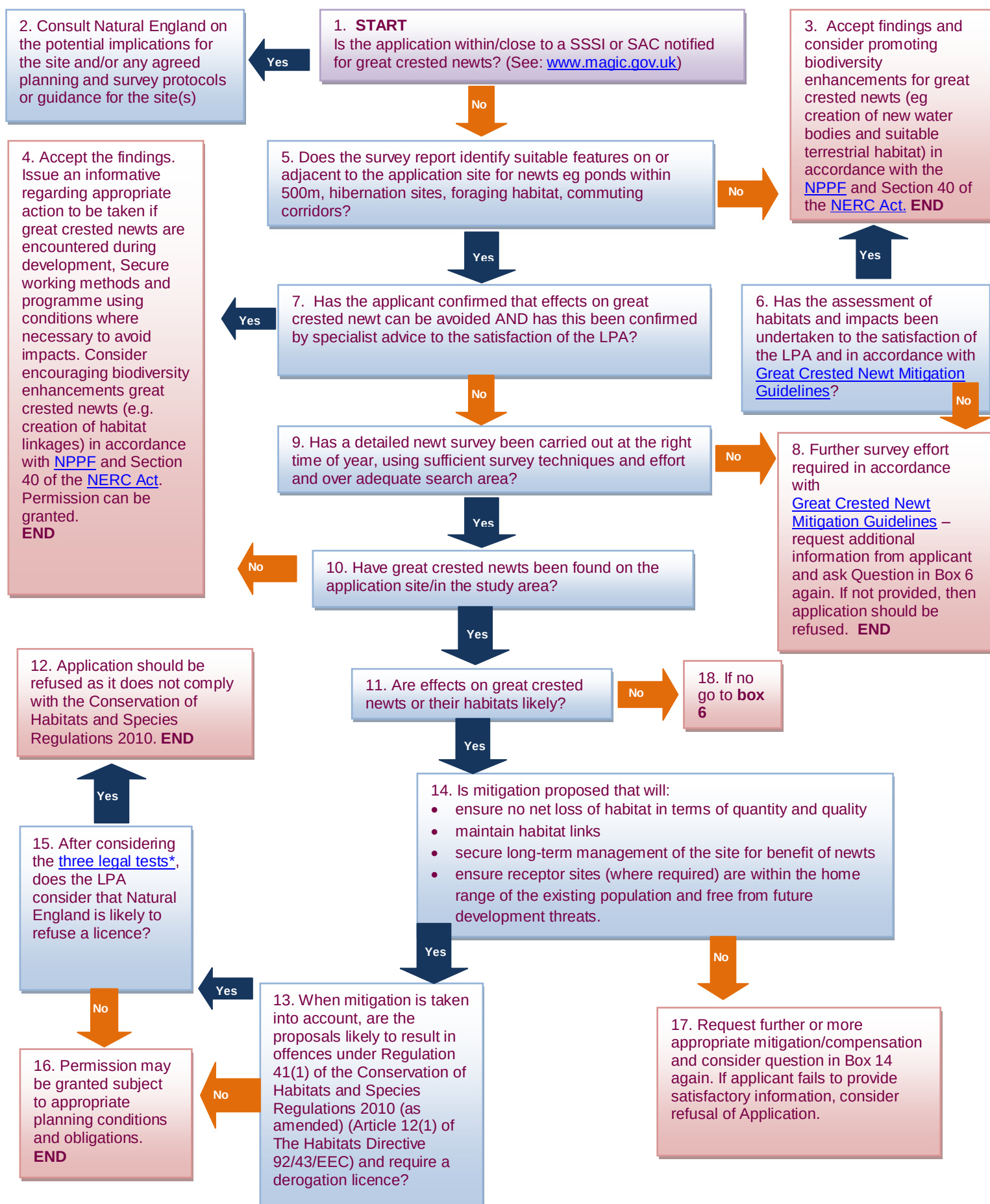
The following is a summary of the *Natural Environment and Rural Communities (NERC), Act, 2006* (as amended), the *NERC Act* itself should be referred to for the exact and current wording:

- Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity;
- In complying with the above, a Minister of the Crown, government department or the National Assembly for Wales must in particular have regard to the United Nations Environmental Programme Convention on Biological Diversity of 1992;
- Conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat.

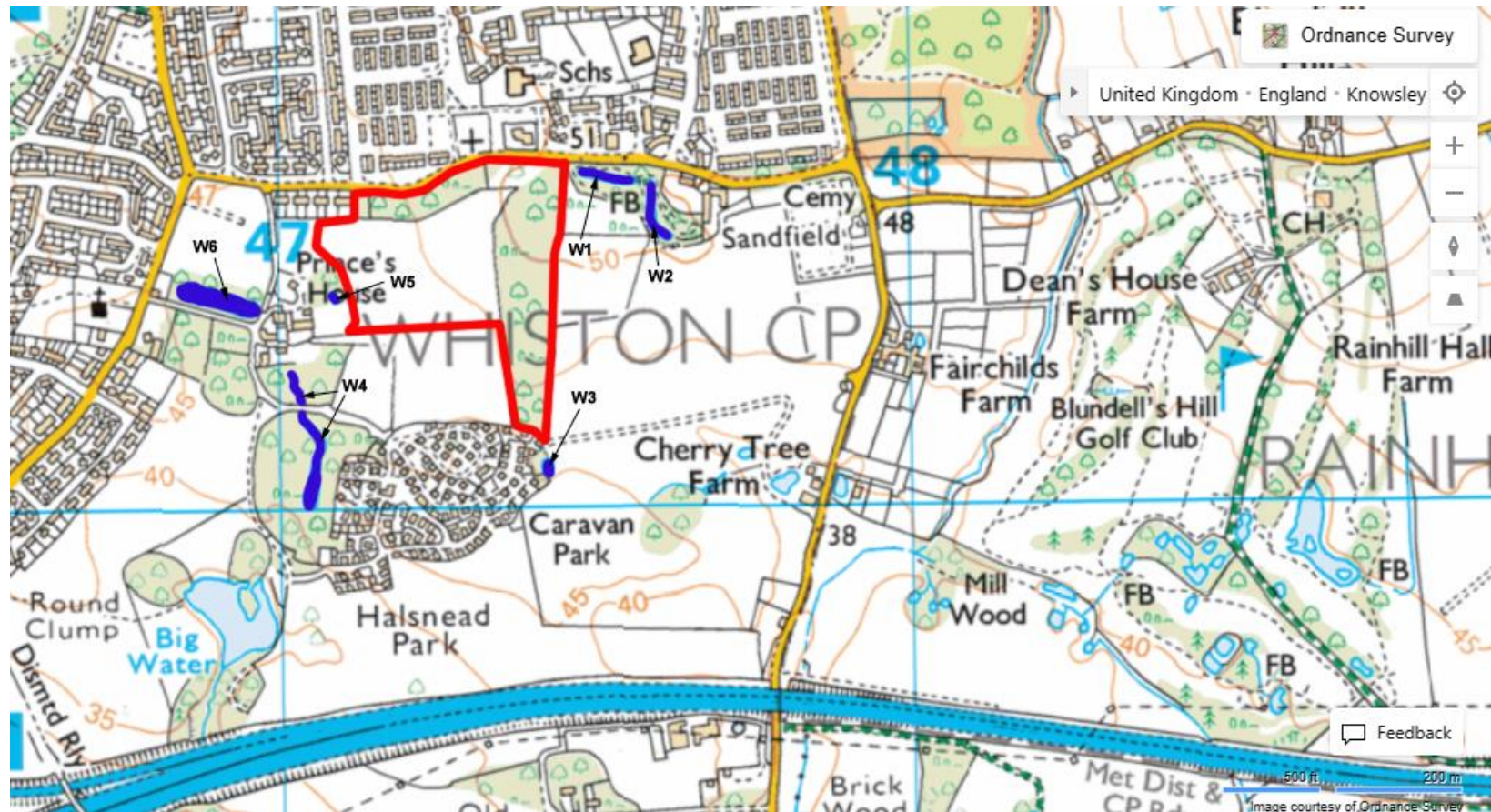
Appendix C: Natural England GCN Standing Advice Sheet Flow Chart

Guidance on how to assess a great crested newt survey and mitigation strategy

(The numbers in each box are to assist in referencing a decision trail rather than being a numerical sequence through the flow chart)



Appendix D: Site Location Plan (OS)



Key:

- Boundary of proposed development site
- Numbered water-bodies within 250 metres of the boundary of the proposed development site

Appendix E: Photographic Plates



Plate 1: The proposed development site, looking north from the central area of the eastern boundary



Plate 2: The proposed development site, looking NE from the central area of the eastern boundary



Plate 3: The proposed development site, looking north from the central area of the site



Plate 4: The proposed development site, looking south from the central area of the site (1)



Plate 5: The proposed development site, looking south from the central area of the site (2)



Plate 6: The proposed development site, looking SW from the southern area of the site



Plate 7: Showing a variety of habitats within the proposed development site



Plate 8: The trees on the right hand side border Lickers Lane



Plate 9: Waterbody 4 (looking north from Main Drive), proved to be a running ditch, considered unsuitable for GCN breeding



Plate 10: Waterbody 4 (looking south from Main Drive), proved to be a running ditch, considered unsuitable for GCN breeding



Plate 11: Waterbody 5 is located within the grounds of Prince's House Farm, and provide to be dry, therefore currently unsuitable for GCN breeding



Plate 12: Waterbody 6 proved to be a popular local fishing lake, considered unsuitable for GCN breeding

Appendix F: Land HSI (LHSI)

Suitability for GCN	GCN Habitat Type	Example Areas
Very Poor	No GCN hibernation/shelter potential; No habitat suitable for GCN foraging; No connectivity to suitable habitat; and Complete barriers to GCN dispersal.	Large areas of intact hard standing Very compacted amenity grass, e.g. football pitches Built-up areas Commercial/industrial areas
Poor	No GCN hibernation/shelter potential; Limited habitat for GCN foraging; Limited connectivity to suitable GCN habitat; and Significant restrictions/barriers present to limit the dispersal of GCN.	Compacted bare ground/hard-standing Commercial/industrial areas Intensively managed agricultural land Closely mown amenity grassland School playing field
Below Average	Sites with limited availability of GCN shelter sites; No obvious GCN hibernation sites; Limited GCN foraging habitat present; Limited connectivity to GCN habitat; and Limited GCN dispersal habitat present.	Managed arable farmland High density grazing Grassland that is intensively managed Formal planting Commercial/industrial sites
Average	Some hibernation/shelter sites; Some habitat available for foraging; Some connectivity to suitable habitat; and Some barriers/restrictions to GCN dispersal.	Semi-improved grassland with regular management Grazing land Grassland with limited management Hedgerows with narrow buffer zones Brownfield sites abandoned <5yrs previously Gardens
Above Average	Land with hibernation and shelter sites; Varied habitat for foraging; Linked/connected habitats; and Few barriers present to limit GCN dispersal.	Unimproved grassland Unmanaged semi-improved grassland Mature hedgerows with wide buffer zones Low density grazed pasture Mature gardens Brownfield sites abandoned >5yrs previously
Good	Land with a range of hibernation and shelter sites; Varied and diverse habitat for foraging; Habitats with connectivity to areas suitable for GCN; and Few/no barriers present to limit GCN dispersal.	Grassland that is rough/tussocky Dense scrub Newly-planted woodland Organic managed farmland Railway embankments Allotments Mineral workings
Very Good	Widespread hibernation and shelter sites; Extensive varied and diverse foraging habitat; Large areas that are well-connected; No barriers present to GCN dispersal.	Mature broad-leaved woodland Managed wildlife areas/reserves Old mineral workings/quarries

Appendix G: GCN Appraisal/Survey Methods

Appraisal/Survey Methods for Aquatic Habitats

GCN eDNA analysis: When GCN inhabit a pond, cells containing their DNA are continually sloughed off into the water. Samples from the water column, taken by a licensed ecologist, are later analysed in a controlled laboratory environment to investigate whether GCN have recently been present in the pond (GCN positive) or not (GCN negative). Collection of samples for GCN eDNA analysis can only be undertaken between 15th April and 30th June if they are to provide a robust result. Samples must be analysed using a strict eDNA screening method issued by Natural England (WC1027).

Egg-search: All native newts lay their eggs one-by-one on submerged leaves of aquatic vegetation and other suitable substrates that are submerged. Careful inspection of aquatic vegetation can therefore be used to confirm the presence of newts in a pond during the amphibian breeding season. GCN eggs can be differentiated from those of the smaller UK native newts (i.e. smooth and palmate newts) by their size and colour, enabling species-specific presence to be confirmed. Where GCN eggs have been identified (establishing that the pond as a breeding site) no further egg-search effort need be undertaken at that pond, as additional disturbance could result in egg predation and/or reduce viability of the eggs.

Torch-survey: Using 'Clulite' 1-million candlepower torches, this is a robust method of establishing newt presence and to count the number of newts in ponds during the breeding season. Weather conditions can limit surveying; dry, still nights are required to allow effective observation, as can the condition of the pond, i.e. deep, weedy or turbid ponds may require additional survey methods to be utilised.

Bottle-trapping: This method is useful where ponds/water is turbid or where an abundance of vegetation would restrict torch-survey. It can assist in confirming newt presence and to indicate population size. Ideally, traps are set at 2 metre spacings around the margins of the pond, where it is possible to set traps, during the evening and these are collected the following morning. This method allows accurate identification to species, sex and life stage. Where some areas of the pond may be inaccessible; i.e. due to steep sides, the presence of dense vegetation, deep water/silt or overhanging trees, etc., the bottle traps can occasionally need to be set in random transects, utilising, wherever possible, the same number of traps as would be required for the 'ideal' 2 metre spacings. However, bottle-trapping should not be used in areas where there are health and/or safety concerns, i.e. steep banks and deep water/silt, or where there is a possible risk of disturbance from animals or interference from vandals or other members of the public.

Netting: This method can be useful in confirming GCN presence within a pond (especially small, garden ponds); however, it should not be regarded as particularly reliable because adult GCN and their larvae may evade capture, especially in deep, large or thickly vegetated ponds (as GCN prefer to swim in open water).

Habitat Suitability Index: As part of all GCN surveys, a 'Habitat Suitability Index' (HSI) score should be calculated for each pond included in a survey. The HSI score is a measure of GCN habitat suitability and can be used to help determine the likelihood of GCN presence within a pond. The HSI score is determined by assessing 10 environmental factors, i.e. the likely presence of fish, water fowl, water quality, etc. The results obtained are converted to a figure and this is calculated to provide a score between 0 and 1. This score can then be

used to categorise GCN aquatic/pond habitat (with 0 representing unsuitable and 1 optimal habitat). However, the system is not sufficiently exact to be able to conclude that a pond with a high score will support GCN, or that any pond with a low score will not support GCN.

It is not always physically possible to utilise three or more survey methods at each pond, this is because ponds frequently differ in terms of water depth, surface area, and water quality. Constraining factors such as steep sides, deep water/silt, the risk of bottle traps being disturbed or damaged by livestock or the public, or torch-survey being restricted by turbid or weedy ponds, determine which methods can be safely and effectively used to provide results that can be considered robust.

Appraisal/Survey Methods for Terrestrial Habitats

Hand-searches of Terrestrial Refugia

Hand-searches of terrestrial refugia is only recommended by natural England for distinct habitat features, i.e. natural refugia such as log piles and/or artificial refugia, that can be carefully lifted/dismantled by hand with very little risk of harm to GCN and/or other amphibians. Refugia searches should not be undertaken when GCN/amphibians are inactive (i.e. November to February inclusive) or in extremely hot periods in summer. Searches should only be carried out in suitable weather conditions as detailed in the English Nature Great Crested Newt Mitigation Guidelines (EN GCN MG, 2001).

Night-time Torch-searches of Terrestrial Habitats

The use of terrestrial torch-searches for foraging and/or migrating GCN/amphibians is only recommended by Natural England to be used by highly experienced amphibian ecologist/s using high powered hand-torches (with a minimum of 1 million candle power). The searches should only be undertaken on mild nights either during rainfall, or shortly after rain, when GCN/amphibian prey species such as earthworms and slugs are active above ground. The search effort should involve repeated scanning of all areas to look for GCN/amphibians emerging from the ground with checks made at ground level along linear features such as amphibian fence lines and/or exterior walls of buildings. The ecologist should walk slowly scanning their torch in front and checking suitable amphibian refuges. The search should cease if much leaf fall occurs as this makes GCN/amphibians difficult to find and there is a danger of treading on GCN and/or other amphibians.

Appendix H: E3P GCN eDNA Letter to support an adjacent development - 2022



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Ref: 80-571-L1-1
Date: 25th July 2022

VISTRY PARTNERSHIPS

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BY Email

GREAT CRESTED NEWT SURVEYS LICKERS LANE, HALSNEAD

BACKGROUND

E3P were instructed to undertake great crested newt (*Triturus cristatus*) eDNA surveys at Lickers Lane, Halsnead, hereafter referred to as "the site".

A Preliminary Ecological Appraisal (PEA) was undertaken on 26th August 2021 (report reference: 80-571-R2-1) by Huw Morgan, BSc (Hons), ACIEEM, MEnvSc, Senior Ecologist at E3P, and Rhian Keating, BSc (Hons), MSc, QCIEEM, Graduate Ecologist at E3P. A total of two waterbodies (Waterbody 1 and Waterbody 2) were identified within 250 m of the site.

GREAT CRESTED NEWT EDNA SURVEYS

The eDNA survey was undertaken on 7th July 2022 by Olivia McKechnie BSc (Hons), QCIEEM, Project Manager of Ecology who holds a Natural England Great Crested Newt Licence (2021-10014-CL08-GCN). The survey comprised a water sample extraction and lab analysis for GCN eDNA following the protocol set out in Appendix 5 of the DEFRA WC1067 Technical Advice Note. The water sample was analysed by SureScreen Scientifics.

Water samples were collected from Waterbody 1 and Waterbody 2 during the survey. Three other waterbodies (Waterbody 3, Waterbody 4, and Waterbody 5) were identified during the survey, however these were dry and as such no eDNA samples could be taken from these locations. Because they were dry, Waterbodies 3, 4, and 5 were considered unsuitable to support great crested newts and no further action is deemed to be necessary. Please see Figure I for Approximate Waterbody Locations.



FIGURE 1 APPROXIMATE WATERBODY LOCATIONS



RESULTS

The results of the survey were received on 22nd July 2022. Waterbody 1 and Waterbody 2 tested **NEGATIVE** for the presence of great crested newts. Please see Figure 2 detailing the results.

FIGURE 1 EDNA RESULTS

Lab Sample No.	Site Name	O/S Reference	SIC	DC	IC	Result	Positive Replicates
7276	Lickers Lane, WB1	SJ4758890438	Pass	Pass	Pass	Negative	0
7284	Lickers Lane, WB2	SJ4744590060	Pass	Pass	Pass	Negative	0

LIMITATIONS

The survey was undertaken on 7th July 2022 which is 7 days outside of the survey season as outlined within Appendix 5 of the DEFRA WC1067 Technical Advice Note. The results of the surveys are still anticipated to be valid as research undertaken to date has shown that great crested newt eDNA can be effective outside of the timings outlined by Natural England and there would be cause to extend the survey period (Rees, H. C., Baker, C. A., Gardner, D. S., Maddison, B. C., & Gough, K. C. (2017). The detection of great crested newts year-round via environmental DNA analysis. BMC Research Notes, 10(1), 1-4.).

CONCLUSIONS AND RECOMMENDATIONS

Great crested newts have been confirmed as absent from WB1 and WB2. Therefore, no further surveys or precautionary working methods in relation to great crested newts are required for development to proceed. The survey results will be valid for two years to inform a planning application.



Lickers Lane, Halsnead
Vistry Partnerships
July 2022

**Yours sincerely,
For and on behalf of E3P Ltd**

Ciara Bass
Graduate Ecologist

