



The Sizewell C Project

6.7 Volume 6 Sizewell Link Road Chapter 7 Terrestrial Ecology and Ornithology Appendix 7A of the Environmental Statement: Annex 7A.5: Draft Great Crested Newt Licence Application

Revision: 2.0
Applicable Regulation: Regulation 5(2)(a)
PINS Reference Number: EN010012

September 2021

Planning Act 2008
Infrastructure Planning (Applications: Prescribed
Forms and Procedure) Regulations 2009



GCN Method Statement WML-A14-2 (Version April 2020)

**The Conservation of Habitats and Species Regulations 2017 (as amended)
Method Statement to support application for licence under Regulation 55(2)(e) in respect of Great
crested newts *Triturus cristatus***

Section A.

Site/project name:

Applicant (developer) name:

Named Ecologist:

Is this application for a new Method Statement (not previously licensed), a modification to a licensed Method Statement (non-annexed only), or a re-submission following a "Further Information Request" notice?

If a re-submission, please give previous application reference (eg EPSL, EPSM 20XX-3142A, 20XX XXX EPS MIT):

NB: For re-submissions and modifications (non-annexed) the Method Statement should be re-submitted in its entirety, including all maps, appendices, reports, etc. You must clearly show any changes from the previously submitted version by underlining relevant text (CTRL-U) or by changing the font colour.

In undertaking this mitigation project, I agree to comply with good practice as set out in the *Great crested newt mitigation guidelines (GCNMG)* (English Nature, 2001). [Note: if you do not check the box to comply with good practice your application will almost certainly be rejected. See comments on *Technical mitigation issues* in Instructions]

Yes

NB: Please be concise with your information and descriptions provided within your Method

Section B Introduction

You have provided a brief description of proposal in the application form, please provide the following additional background and site information.

Relationship with impacts due to other nearby development

B1.1 Is this application part of a phased/multi-plot development? See: [Advice on Masterplan guidance](#)

For example, is it part of a phased mineral extraction, housing development or one plot in a multiple ownership residential scheme?..... Yes No If No, go to Question B1.2

If yes, how many great crested newt (GCN) licences will be required?

What licence application phase is this? e.g. licence application 1 of 3.

Note: sections in this Method Statement on impact assessment and mitigation measures must explicitly relate to impacts only from the development currently proposed.

Your separate master plan document is expected to take due regard of the overall project. This is important to ensure that in-combination effects are considered, and mitigation measures across the whole project are both sufficient and coherent.

Confirm you provided:

- A Separate Masterplan document..... Yes No
- Separate Masterplan figures..... Yes No
- A Habitat Management and Maintenance Plan?... Yes No

B - Background & Site Info

If you have selected 'No' to any of the above questions, please explain why as these are considered necessary and important documents for determination of your application. Not to provide them is likely to result in delays to being able to determine your application whilst we come back to you for this information.

The Sizewell C development consists of a Main Development Site (MDS) and 8 Associated Development Sites (AD Sites), shown on Figure B1.1. GCN surveys have been undertaken across the MDS and at each of the AD Sites. Based on the survey results, GCN have been scoped out from the MDS, Yoxford roundabout, Southern Park and Ride, Two Village Bypass and Freight Management Facility. GCN licence applications have been developed for the three AD Sites where surveys have suggested that the development may impact GCN populations. These sites are referred to as Northern Park and Ride, Sizewell Link Road (to which this licence applies) and Green Rail Route.

There is no Separate Masterplan document or Habitat Management and Maintenance Plan as no in-combination effects are anticipated between these developments. Northern Park and Ride is 1.5km from Sizewell Link Road and 6.7km from Green Rail Route (at their closest points) therefore no overlap in GCN population between Northern Park and Ride and the other two schemes is likely. Sizewell Link Road is 980m from Green Rail Route (at their closest points) therefore in-combination effects have been ruled out.

Please provide below a brief summary of how the current application relates to the larger project.

Current application comprises a link road between the MDS (Sizewell C, the nuclear power station) and the nearby Main Road (A12). As shown in Figure B1.1, Sizewell Link Road lies to the west of the MDS, to the south of the Northern Park and Ride and to the north of the Green Rail Route. The other AD Sites are situated to the south-west, the closest being Two Village Bypass 6.5km at their closest points.

For this method statement also include a map FIG. B1.1 - [see Sum & Figs. tab.](#)

B1.2 Apart from any mentioned in B1.1, are there other GCN mitigation projects which might affect the target population? You must make reasonable efforts to establish this, including discussions with your client and the LPA. Yes No

Notes: Include any projects within 100m of site boundary, and any further away that are likely to seriously impact on the population at the site. Include current projects, any from the last 5 years, and any planned to happen within the next 5 years.

B - Background & Site Info

If yes, provide summary information here, including site names, dates, and - if known - licence reference No.s

A review of the planning applications viewable on the East Suffolk Council planning portal found no evidence of forthcoming projects taking place within the next 5 years that have the potential to impact the same GCN population as covered within this application.

A review of European Protected Species applications was undertaken on MAGIC and the nearest granted GCN licence was situated 4.1km south west of the site (ref: EPSM2013-5525), dated between 2013 and 2017. This licence involved the destruction of a GCN breeding site. There are a number of main roads between the licenced site and the site that this application refers to, it is therefore unlikely that the works set out within this licence will impact the same population of GCN.

A further three historic applications (references: EPSM2009-1044, EPSM2009-1450 and EPSM2012-460) dated between 2009 and 2014 were discovered over 6km of the site. These licences also involved the destruction of GCN resting places. Due to their distance from the development site, it is considered unlikely that there are other GCN mitigation projects that may affect the target population for this application."

NB: Locations of other GCN sites must be shown on FIG. B1.2 - [see Sum & Figs. tab](#)

[Next Section](#)

C Survey and site assessment

C1 Pre-existing survey information on GCN at survey site (eg previous to the survey data used to inform this application)

C1.1 Indicate conclusion on newts at development site from pre-existing survey data, if any. You should make reasonable efforts to find this data, including consulting the NBN Gateway and Local Records Centres.

No pre-existing survey data

C1.2 Age of pre-existing survey data (years between now and latest survey)

C1.3 Source(s) of pre-existing survey data; also include a copy or summary in an appendix

C2 Status of GCNs in the local area

C2.1 Local status (within approx 10km). Note: often there will be only patchy data on newt distribution, but you may feel able to assign one of the categories below when combined with pond density figures for the local area. Note: this is only a rough measure.

Frequent - known or likely to occur at c. >5 ponds per square km

Further information on local status

611 records of GCN within 10km on NBN. This equates to ~6 record per km². There is a high density of ponds within the 10km area surrounding the site and Suffolk as a county holds a very high density of ponds. Nevertheless, analysis of 900 of Suffolk's 22,000 estimated ponds between 2004 to 2007 (Bullion, 2009), revealed that whilst over 14% of the ponds surveyed contained GCNs, large and established populations were only recorded at a small number of ponds (sunny, well-vegetated ponds with good surrounding habitat), and the majority of Suffolk's ponds were found to be unsuitable for GCN (due to heavy shade and organic matter, and/or the presence of predatory fish or damagingly high duck populations).

C3 Recent survey (to inform this mitigation project)

C3.1 Objective of survey

To confirm presence of great crested newts in a specified area

C3.2 Survey area and justification

- Clearly state which areas were surveyed...
If *Other*, please provide comments below:

Survey Area

250m 500m Other

- Select which ponds were surveyed.....
If *Other*, please provide comments below:

Ponds Surveyed

All Ponds Some Ponds Other

Ponds were surveyed where access was available, Shown on Figure C3.2a

- Provide justification for the area surveyed (whether 250m or 500m of the site)

All ponds within 500m of the project order limits

NB: to accompany the survey section you must identify the survey area and all ponds within that area, indicating those surveyed from those not surveyed, on FIG. C3.2(a) and the 250m and 500m radii limits around the development boundary. An aerial photograph of the site and surrounding area is also useful. Please label as FIG. C3.2(b) if included. See Sum & Figs. tab.

C3.3 Habitat description: waterbodies

C3.3i Briefly describe all waterbodies within your survey area. Please provide only a short text description, e.g. "Pond 1 is a small garden pond in the northwest of the site. Pond 2 is a marl pit pond in the centre of the site". Includepond references (names). Do not include Habitat Suitability Index (HSI) data here; this is to be added later in the Method Statement.

Pond ref	Description
	See Additional Sheet C - Tab C3.3i

NB: Photographs showing the habitats on site should be provided - FIG. C3.4

[see Sum & Figs. tab](#)

C3.5 Waterbodies: quantitative assessment.

A Habitat Suitability Index (HSI) score should be calculated for each pond that would be subject to activities likely to result in adverse impacts on the local GCN population. See guidance in the Instructions section (Survey data and HSI tabs). It is not required for ponds subject to low impacts, though can be entered if you wish; this may be useful, for example, to provide objective evidence that the population affected is likely to be small.

In the boxes below, enter the Pond reference (or name) then the SI scores. The spreadsheet will automatically calculate the HSI. It is expected that, for each HSI, all ten SI scores should be entered in most cases. If you did not calculate a particular SI score, leave blank (**do not** enter "0"). If more than two variables are missing, the HSI should be treated as provisional and you should comment on this below. If more than 10 waterbodies need HSI scores, include additional information in an appendix, in the same format as below.

Date HSI assessment undertaken					
Pond ref					
SI1 - Location					
SI2 - Pond area					
SI3 - Pond drying					
SI4 - Water quality					
SI4 - Shade					
SI6 - Fowl					
SI7 - Fish					
SI8 - Ponds					
SI9 - Terr'l habitat					
SI10 - Macrophytes					
HSI					

Date HSI assessment undertaken					
Pond ref					
SI1 - Location					
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SI4 - Water quality					
SI4 - Shade					
SI6 - Fowl					
SI7 - Fish					
SI8 - Ponds					
SI9 - Terr'l habitat					
SI10 - Macrophytes					
HSI					

Add more records here [Additional records](#) page

Please comment and describe any constraints on HSI data if appropriate. If ponds did not undergo a HSI assessment please also explain why:

Please see Additional Sheet C - Tab C3.5 for HSI information

C4 Amphibian survey

C4.1 Terrestrial amphibian survey

C - Survey Info

Was a terrestrial survey undertaken?..... Yes No

If no, proceed to next section.

Objective of terrestrial survey:

Which area was surveyed for terrestrial amphibians?

Explain terrestrial survey area(s). Also mark on map, and give map reference here:

Applicants must ensure they retain or have access to the records set out in the technical advice note, and used to support the licence application, for at least 12 months after the first licence return (dates for which will be set out in any licence granted).

Fill in the boxes to show methods, timing, effort and results:

Survey start date: Survey end date:

Method:	Refuge search	Pitfall	Night search	Other**
Effort	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
No. of newts*	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Total newts:	0			

Metamorphs and immatures as percentage of total catch:

*for this section, "no. of newts" refers more accurately to "no. of newt observations", as individuals are not distinguished in typical surveys. If you have individual newt data, state below.

Comments on results, e.g. ** if an 'other' method was used please explain what this was, favoured areas, migration route, juvenile dispersal route. Also mark observations and locations newts found on a map, and give map reference here:

C4.2 Aquatic surveys for presence / absence using eDNA.

A. Have you used eDNA to determine GCN presence? Yes No

B. If yes, please confirm the following:

i. The Defra [technical advice note](#) has been strictly followed - Yes No

If no, the results will not be accepted.

Applicants must ensure they retain or have access to the records set out in the technical advice note, and used to support the licence application, for at least 12 months after the first licence return (dates for which will be set out in any licence granted).

ii. Natural England's published timeframes for taking eDNA samples Yes No

has been adhered to -
 If no, please explain why.

Yes No

iii. Confirm only licensed GCN surveyors, or suitably trained and competent Accredited Agents (see below table) have taken the eDNA samples to support this licence application. Provide their names and licence references below.

Yes No

Pond ref	GCN Surveyor / Accredited Agent	Licence Reference
	See Additional Sheet C - Tab C4.2	

Add more records here [Additional records page](#)

C. Complete the following table

Pond reference	Date eDNA sample taken	Result (presence or absence)

Add more records here [Additional records page](#)

It is only acceptable to use Accredited Agents under a GCN survey licence to collect eDNA samples if it can be demonstrated that they are adequately trained and competent in GCN

ecology, conventional survey techniques, trained in the collection of eDNA samples and are experienced GCN surveyors even if they do not hold their own GCN survey licences. The named ecologist and applicant are responsible for ensuring that this condition is met.

Results of eDNA survey data must be clearly depicted on Figure C3.2a.

[Next Section](#)

Additional records

E2.5 Receptor site(s): continued

[Back to original section](#)

Site name	Habitat description	Size (ha)	Adjacent Land Use

C4.3 Aquatic amphibian survey (conventional methods) - GCN results - Pond 1

Was an aquatic amphibian survey done? **Yes**
 Total no. of ponds surveyed: **39**
 If no, proceed to next section.
 If >10 ponds or >8 visits for a pond, provide further data... See additional [Survey ponds 11-20 sheet](#)

Surveyor name(s): **Rich Prew, Rob Regan, Alex Ellis, Polly Lockyer, David Orchard, Ana Pino Blanco, Toby Abrehart (cont. next tab)**
Important. Read before completing this section: Enter GCN survey data in relevant boxes in the table below (for Pond 1) and those on subsequent sheets (for up to 9 other ponds). Enter "0" where you did a survey and found no newts; leave box blank if no survey was done. This format is designed for a typical single season survey with typical methods and effort. Explain atypical methods/effort later. For multiple year surveys, give details in annex (convert data to this format if possible). Use these tables to provide details only for the most recent season's survey. Append older survey results in full. Automatic yellow highlight indicates possible detectability problem (see Evaluation & interpretation section, later).

Pond reference (e.g. "Pond 1") - below		Method:		Torch			Bottle-trap			Net			Egg search		Larvae	
P032				Torch power:			No. of traps used in						eggs found?		larvae found? (any method)	
No. of survey visits to this pond: 6		Sex/life stage:		>= 1,000,000 cp			11-50 traps									
(1) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.	eggs found?		larvae found? (any method)	
30/03/2021	9	2	1	Adult totals:	0	0	0	0	0	0	0	0	No		No	
(2) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	0	0	0	0	Yes		No	
20/04/2021	13	3	1	Adult totals:	0	0	0	0	0	0	0	0	No		No	
(3) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	0	0	0	0	No		No	
27/04/2021	7	4	2	Adult totals:	0	0	0	0	0	0	0	0	No		No	
(4) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	0	0	0	0	No		No	
11/05/2021	13	4	1	Adult totals:	0	0	0	0	0	0	0	0	No		No	
(5) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	0	0	0	0	No		No	
09/06/2021	17	4	4	Adult totals:	0	0	0	0	0	0	0	0	No		No	
(6) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	0	0	0	0	No		No	
14/06/2021	17	N/A	N/A	Adult totals:	0	0	0	0	0	0	0	0	No		No	
(7) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	0	0	0	0	No		No	
(8) Date:	Air temp	Veg cover	Turbidity	Adult totals:	0	0	0	0	0	0	0	0	No		No	
				Adult totals:	0	0	0	0	0	0	0	0	No		No	
Peak adult count for this pond in any one visit (by torch, trap or net):													0			

Comments and constraints: Other amphibians: smooth newt (max count 42), common frog (max count 1).
 Constraints:
 - Visit 3: pond drying, water level not high enough to allow more than 4 traps to be deployed.
 - Visit 4: pond almost dry with only a small amount of water. Much of the water is inaccessible and there is dense Crassula growth around part of the pond posing biodiversity risk.
 Visit 5: pond was dry.

C - Survey - Pond 1-10

- visit 3. pond was dry.

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond NB: This page prints in landscape format

Pond reference (e.g. Pond 2)		Method:		Torch		Bottle-trap			Net			Egg search	Larvae
P035		Torch power:		No. of traps used in			Eggs found?			Larvae found? (any method)			
No. of survey visits to this pond:		>= 1,000,000 cp		11-50 traps									
6		Sex/life stage:		Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.	
(1) Date:	Air temp	Veg cover	Turbidity										No
27/04/2021	9	1	4	Adult totals:	0	0	0	0	0	0	0	0	
(2) Date:	Air temp	Veg cover	Turbidity										No
11/05/2021	13	3	1	Adult totals:	0	0	0	0	0	0	0	0	
(3) Date:	Air temp	Veg cover	Turbidity										No
09/06/2021	17	0	3	Adult totals:	0	0	0	0	0	0	0	0	
(4) Date:	Air temp	Veg cover	Turbidity										No
14/06/2021	17	1	2	Adult totals:	0	0	0	0	0	0	0	0	
(5) Date:	Air temp	Veg cover	Turbidity										No
17/06/2021	17	1	2	Adult totals:	0	0	0	0	0	0	0	0	
(6) Date:	Air temp	Veg cover	Turbidity										No
22/06/2021	13	1	1	Adult totals:	0	0	0	0	0	0	0	0	
(7) Date:	Air temp	Veg cover	Turbidity										
				Adult totals:	0	0	0	0	0	0	0	0	
(8) Date:	Air temp	Veg cover	Turbidity										
				Adult totals:	0	0	0	0	0	0	0	0	
Peak adult count for this pond in any one visit (by torch, trap or net):													0

Comments and constraints: Other amphibians: smooth newt (max count 2).

Constraints:

- Visits 2 to 6: only 10-20% of banks accessible due to dense scrub.
- Visit 3: Willow seeds and floating branches impede view of water surface.

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond NB: This page prints in landscape format

Pond reference (e.g. Pond 3)		Method:		Torch			Bottle-trap			Net			Egg search	Larvae
P041		Torch power:		No. of traps used in			Eggs found?			Larvae found? (any method)				
No. of survey visits to this pond:		>= 1,000,000 cp		11-50 traps										
		6												
		Sex/life stage:		Male			Female			Imm.				
(1) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
29/03/2021	10	0	1	Adult totals:			0			0				
(2) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
20/04/2021	13	1	2	Adult totals:			0			0				
(3) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
11/05/2021	13	2	3	Adult totals:			0			0				
(4) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
09/06/2021	17	0	4	Adult totals:			0			0				
(5) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
14/06/2021	17	0	4	Adult totals:			0			0				
(6) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
17/06/2021	17	0	3	Adult totals:			0			0				
(7) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
17/06/2021	17	0	3	Adult totals:			0			0				
(8) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
17/06/2021	17	0	3	Adult totals:			0			0				
Peak adult count for this pond in any one visit (by torch, trap or net):				0			0			0				

Comments and constraints: Other amphibians: smooth newt (max count 1).

Constraints:

- Visits 4 to 6 heavily constrained by algae, willow seeds / pollen and Duckweed (Lemna sp.).
- Visits 5 and 6: 95% of pond edge inaccessible due to dense scrub along banks.

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond NB: This page prints in landscape format

Pond reference (e.g. Pond 4)		Method:		Torch			Bottle-trap			Net			Egg search	Larvae
P043		Torch power:		No. of traps used in			Eggs found?			Larvae found? (any method)				
No. of survey visits to this pond:		>= 1,000,000 cp		11-50 traps										
6														
Sex/life stage:		Male			Female			Imm.			Imm.			
(1) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
20/04/2021	13	3	Adult totals:	0	0	0	0	0	0	0	0	No	No	
(2) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
11/05/2021	13	0	Adult totals:	0	0	0	0	0	0	0	0	No	No	
(3) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
09/06/2021	17	0	Adult totals:	0	0	0	0	0	0	0	0	No	No	
(4) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
14/06/2021	17	0	Adult totals:	0	0	0	0	0	0	0	0	No	No	
(5) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
17/06/2021	17	0	Adult totals:	0	0	0	0	0	0	0	0	No	No	
(6) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
22/06/2021	13	4	Adult totals:	0	0	0	0	0	0	0	0	No	No	
(7) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
Adult totals:				0	0	0	0	0	0	0	0	No	No	
(8) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
Adult totals:				0	0	0	0	0	0	0	0	No	No	
Peak adult count for this pond in any one visit (by torch, trap or net):				0			0			0				

Comments and constraints: Other amphibians: common frog (max count 1).

Constraints:

- Visits 3 to 6 heavily constrained by algae and floating branches / leaves.
- Visits 4 to 6: 80% of pond edge inaccessible due to dense scrub along banks.

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond NB: This page prints in landscape format

Pond reference (e.g. Pond 5)		Method:		Torch		Bottle-trap			Net			Egg search	Larvae	
P045		Torch power:		No. of traps used in			Eggs found?			Larvae found? (any method)				
No. of survey visits to this pond: 4		>= 1,000,000 cp			1-10 traps									
		Sex/life stage:			Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.	
(1) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	No	No
09/06/2021	17	0	2	Adult totals:										
(2) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	No	No
14/06/2021	17	0	3	Adult totals:										
(3) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	No	No
17/06/2021	17	1	3	Adult totals:										
(4) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	No	No
22/06/2021	13	2	1	Adult totals:										
(5) Date:	Air temp	Veg cover	Turbidity											
				Adult totals:	0	0	0	0	0	0	0	0		
(6) Date:	Air temp	Veg cover	Turbidity											
				Adult totals:	0	0	0	0	0	0	0	0		
(7) Date:	Air temp	Veg cover	Turbidity											
				Adult totals:	0	0	0	0	0	0	0	0		
(8) Date:	Air temp	Veg cover	Turbidity											
				Adult totals:	0	0	0	0	0	0	0	0		
Peak adult count for this pond in any one visit (by torch, trap or net):														

Comments and constraints: Constraints:
 - Only 5% of the bank accessible due to dense scrub along banks.
 - Torching constrained due to seeds / tree pollen covering 90% of pond.

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond NB: This page prints in landscape format

Pond reference (e.g. Pond 6)		Method:		Torch		Bottle-trap			Net			Egg search	Larvae
P048		Torch power:		No. of traps used in						eggs found?		larvae	
No. of survey visits to this pond:		>= 1,000,000 cp		11-50 traps								found? (any method)	
4													
Sex/life stage:		Male		Female		Imm.		Male		Female		Imm.	
(1) Date:	Air temp	Veg cover	Turbidity	20	31	0						No	Yes
01/06/2021	14	4	0	51			0				0		
(2) Date:	Air temp	Veg cover	Turbidity	22	17	0					0	0	No
04/06/2021	17	4	1	39			0				0		
(3) Date:	Air temp	Veg cover	Turbidity	9	28	0	2	3	0			No	No
07/06/2021	17	4	1	37			5				0		
(4) Date:	Air temp	Veg cover	Turbidity	27	31	0	7	4	0			No	No
10/06/2021	18	4	0	58			11				0		
(5) Date:	Air temp	Veg cover	Turbidity										
				Adult totals:									
(6) Date:	Air temp	Veg cover	Turbidity	Adult totals:		0					0		
				Adult totals:									
(7) Date:	Air temp	Veg cover	Turbidity	Adult totals:		0					0		
				Adult totals:									
(8) Date:	Air temp	Veg cover	Turbidity	Adult totals:		0					0		
				Adult totals:									
Peak adult count for this pond in any one visit (by torch, trap or net):											58		

Comments and constraints: Other amphibians: smooth newt (max count 16).

Constraints:

- Visit 1: Only torch survey undertaken. No traps set or netting survey because GCN were identified as present when surveyors passed this pond and shone a torch in it on 01/06/2021.
- Visits 5 and 6 not undertaken due to end in land access agreement.

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond NB: This page prints in landscape format

Pond reference (e.g. Pond 7)		Method:		Torch		Bottle-trap			Net			Egg search	Larvae
P049		Torch power:		No. of traps used in			Eggs found?			Larvae found? (any method)			
No. of survey visits to this pond:		>= 1,000,000 cp		11-50 traps									
		6											
		Sex/life stage:											
(1) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.	
29/04/2021	6	2	0	1	0	0	0	0	0	0	0	0	No
		Adult totals:											
(2) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.	
10/05/2021	12	1	0	5	4	0	5	12	0	0	0	0	No
		Adult totals:											
(3) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.	
17/05/2021	8	2	2	6	11	0	6	7	0	0	0	0	No
		Adult totals:											
(4) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.	
24/05/2021	9	4	1	8	4	0	3	2	0	0	0	0	No
		Adult totals:											
(5) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.	
09/06/2021	16	3	0	5	5	0	0	0	0	0	0	0	No
		Adult totals:											
(6) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.	
14/06/2021	18	2	1	3	7	1	0	0	0	0	0	0	No
		Adult totals:											
(7) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.	
				0	0	0	0	0	0	0	0	0	
		Adult totals:											
(8) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.	
				0	0	0	0	0	0	0	0	0	
		Adult totals:											
Peak adult count for this pond in any one visit (by torch, trap or net):													
				17									

Comments and constraints: Other amphibians: smooth newt (max count 2), common toad (max count 1).

Comments: no egg search undertaken as GCN eggs found during HSI survey visit. Incidental GCN egg in bottle trap (visit 4).

Constraints:

- Visit 1: aquatic vegetation around pond margins obscured view.
- Visits 4 and 5: 70-80% of bank inaccessible due to bulrush.

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond NB: This page prints in landscape format

Pond reference (e.g. Pond 8)		Method:		Torch		Bottle-trap			Net			Egg search	Larvae
P051		Torch power:		No. of traps used in						Eggs found?	Larvae found? (any method)		
No. of survey visits to this pond:		>= 1,000,000 cp		11-50 traps									
6													
Sex/life stage:		Male		Female		Imm.		Male		Female		Imm.	
(1) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No
28/04/2021	8	1	2	0	0	0	0	0	0	0	0	No	No
(2) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No
11/05/2021	13	2	2	0	0	0	0	0	0	0	0	No	No
(3) Date:	Air temp	Veg cover	Turbidity	0	0	0	2	3	0	0	0	No	No
19/05/2021	13	1	4	0	0	5	0	0	0	0	0	No	No
(4) Date:	Air temp	Veg cover	Turbidity	0	1	0	0	1	0	0	0	No	No
25/06/2021	11	2	1	1	0	1	0	0	0	0	0	No	No
(5) Date:	Air temp	Veg cover	Turbidity	0	1	0	0	0	0	0	0	No	No
02/06/2021	14	0	3	1	0	0	0	0	0	0	0	No	No
(6) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No
08/06/2021	18	1	3	0	0	0	0	0	0	0	0	No	No
(7) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No
(8) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No
Peak adult count for this pond in any one visit (by torch, trap or net):													
												5	

Comments and constraints: Other amphibians: smooth newt (max count 1).

Comments: no aquatic vegetation within pond.

Constraints:

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond NB: This page prints in landscape format

Pond reference (e.g. Pond 9)		Method:		Torch		Bottle-trap			Net			Egg search	Larvae
P052		Torch power:		No. of traps used in						eggs found?	larvae		
No. of survey visits to this pond:		>= 1,000,000 cp		11-50 traps						found? (any method)			
6													
Sex/life stage:		Male		Female		Imm.		Male		Female		Imm.	
(1) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No
28/04/2021	7	2	2	Adult totals:									
(2) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	Yes	No
12/05/2021	13	1	2	Adult totals:									
(3) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No
14/06/2021	19	3	3	Adult totals:									
(4) Date:	Air temp	Veg cover	Turbidity									No	No
17/06/2021	N/A	N/A	N/A	Adult totals:									
(5) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No
21/06/2021	13	1	4	Adult totals:									
(6) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No
23/06/2021	13	2	2	Adult totals:									
(7) Date:	Air temp	Veg cover	Turbidity										
				Adult totals:									
(8) Date:	Air temp	Veg cover	Turbidity										
				Adult totals:									
Peak adult count for this pond in any one visit (by torch, trap or net):				0	0	0	0	0	0	0	0		

Comments and constraints: Other amphibians: common toad (max count 1).

Constraints:

- Visits 2 to 4: the pond was too shallow to bottle trap. It filled up after heavy rain from visit 5.
- Visit 4: livestock prevented surveying.

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (Pond 10) NB: This page prints in landscape format

Pond reference (e.g. Pond 10)		Method:		Torch		Bottle-trap			Net			Egg search	Larvae
P053		No. of survey visits to this pond: 5		Torch power: >= 1,000,000 cp		No. of traps used in			Eggs found?			Larvae found? (any method)	
		Sex/life stage:		Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.	
(1) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	No
31/03/2021	9	0	4	Adult totals:									
(2) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	No
28/04/2021	7	1	2	Adult totals:									
(3) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	No
12/05/2021	13	0	2	Adult totals:									
(4) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	
14/06/2021	19	0	3	Adult totals:									
(5) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	
21/06/2021	N/A	N/A	N/A	Adult totals:									
(6) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	
Adult totals:				0	0	0	0	0	0	0	0	0	
(7) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	
Adult totals:				0	0	0	0	0	0	0	0	0	
(8) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	
Adult totals:				0	0	0	0	0	0	0	0	0	
Peak adult count for this pond in any one visit (by torch, trap or net):				0			0			0			

Comments and constraints: Constraints:
 - Dense scrub covered most of the pond's bank. Very limited access on visits 1 to 3 and no access from visit 4.
 Bottle traps could not be set and torching was very constrained.

: Sizewell C - Sizewell Link Road

C4.4 Aquatic amphibian survey (continued)

Yes No

1. Confirm that you have undertaken a walkover survey within 3 months prior to submission.....

2. If the survey was not undertaken this year, please confirm whether there are any changes to habitats (aquatic or terrestrial). If yes, please detail the nature of the changes below.

[Next Section](#)

C4.3 Aquatic amphibian survey (conventional methods) - GCN results - Pond 11

Was an aquatic amphibian survey done? **Yes** If no, proceed to next section. Return to [Ponds 1 - 10 tab](#)

Total no. of ponds surveyed: **39**

Surveyor name(s): **Alister Killingsworth, Duncan Sweeting, Jacob Hall, Andrew Ross, Shaun Pryor**

Important. Read before completing this section: Enter GCN survey data in relevant boxes in the table below (for Pond 1) and those on subsequent sheets (for up to 9 other ponds). Enter "0" where you did a survey and found no newts; leave box blank if no survey was done. This format is designed for a typical single season survey with typical methods and effort. Explain atypical methods/effort later. For multiple year surveys, give details in annex (convert data to this format if possible). Use these tables to provide details only for the most recent season's survey. Append older survey results in full. Automatic yellow highlight indicates possible detectability problem (see Evaluation & interpretation section, later).

Pond reference (e.g. "Pond 11") - below		Method:		Torch			Bottle-trap			Net			Egg search		Larvae	
P058		Sex/life stage:		Torch power:			No. of traps used in pond:						eggs found?		larvae found? (any method)	
No. of survey visits to this pond:		6		>= 1,000,000 cp			11-50 traps									
		Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.						
(1) Date:	Air temp	Veg cover	Turbidity													No
28/04/2021	8	2	3	Adult totals:	0	0	0	0	0	0	0	0	0	0		
(2) Date:	Air temp	Veg cover	Turbidity													No
11/05/2021	13	1	2	Adult totals:	0	0	0	1	0	0	0	0	0	0		
(3) Date:	Air temp	Veg cover	Turbidity													No
19/05/2021	13	1	3	Adult totals:	0	0	0	0	0	0	0	0	0	0		
(4) Date:	Air temp	Veg cover	Turbidity													No
25/05/2021	11	3	2	Adult totals:	0	0	0	0	0	0	0	0	0	0		
(5) Date:	Air temp	Veg cover	Turbidity													No
02/06/2021	16	0	3	Adult totals:	0	0	0	0	0	0	0	0	0	0		
(6) Date:	Air temp	Veg cover	Turbidity													No
08/06/2021	15	3	2	Adult totals:	0	0	0	0	0	1	0	0	0	0		
(7) Date:	Air temp	Veg cover	Turbidity													No
				Adult totals:	0	0	0	0	0	0	0	0	0	0		
(8) Date:	Air temp	Veg cover	Turbidity													No
				Adult totals:	0	0	0	0	0	0	0	0	0	0		
Peak adult count for this pond in any one visit (by torch, trap or net):												1				

Comments and constraints: Other amphibians: smooth newt (max count 3), common frog (max count 2), common toad (max count 1).
 Constraints / comments: no aquatic vegetation present on pond.

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond 12) NB: This page prints in landscape format

Pond reference (e.g. Pond 12)		Method:		Torch			Bottle-trap			Net			Egg search	Larvae
P061		Torch power:		No. of traps used in pond:			Eggs found?			Larvae found? (any method)				
No. of survey visits to this pond:		Sex/life stage:		Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.	Yes	No
6		Turbidity		0	0	0	0	0	0	0	0	0	Yes	No
(1) Date:	Air temp	Veg cover	Turbidity	Adult totals:			Adult totals:			Adult totals:				
28/04/2021	10	5	4	0	0	0	0	0	0	0	0	0	0	0
(2) Date:	Air temp	Veg cover	Turbidity	Adult totals:			Adult totals:			Adult totals:				
10/05/2021	13	2	4	0	0	0	0	0	0	0	0	0	0	0
(3) Date:	Air temp	Veg cover	Turbidity	Adult totals:			Adult totals:			Adult totals:				
09/06/2021	16	1	2	0	0	0	0	0	0	0	0	0	0	0
(4) Date:	Air temp	Veg cover	Turbidity	Adult totals:			Adult totals:			Adult totals:				
14/06/2021	18	5	5	0	0	0	1	0	0	0	0	0	0	0
(5) Date:	Air temp	Veg cover	Turbidity	Adult totals:			Adult totals:			Adult totals:				
16/06/2021	18	4	1	0	0	0	0	0	0	0	0	0	0	0
(6) Date:	Air temp	Veg cover	Turbidity	Adult totals:			Adult totals:			Adult totals:				
23/06/2021	13	4	1	0	0	0	0	0	0	0	0	0	0	0
(7) Date:	Air temp	Veg cover	Turbidity	Adult totals:			Adult totals:			Adult totals:				
				0	0	0	0	0	0	0	0	0	0	0
(8) Date:	Air temp	Veg cover	Turbidity	Adult totals:			Adult totals:			Adult totals:				
				0	0	0	0	0	0	0	0	0	0	0
Peak adult count for this pond in any one visit (by torch, trap or net):				1			0			0				

Comments and constraints: Other amphibians: smooth newt (max count 6), common frog (max count 1), common toad (max count 1).

Constraints:

- Visits 1, 4, 5 and 6: Thick coating of algae covering 95% of water surface.
- Visit 6: only 5% of pond's edge accessible.

C4.3 Aquatic amphibian survey (conventional surveys - GCN results (cont - Pond 13) NB: This page prints in landscape format

Pond reference (e.g. Pond 13)		Method:		Torch		Bottle-trap		Net			Egg search	Larvae	
P064		Torch power:		No. of traps used in pond:		No. of traps used in pond:					eggs found?	larvae found? (any method)	
No. of survey visits to this pond:		>= 1,000,000 cp		>50 traps		>50 traps							
6													
Sex/life stage:		Male		Female		Imm.		Male		Female		Imm.	
(1) Date:	Air temp	Veg cover	Turbidity	2	1	0	0	0	0	0	0	Yes	No
29/03/2021	10	2	1	3				0					
			Adult totals:										
(2) Date:	Air temp	Veg cover	Turbidity	10	0	0	0	1	0	0	0	No	No
27/04/2021	10	3	2	10				1					
			Adult totals:										
(3) Date:	Air temp	Veg cover	Turbidity	0	16	0	0	0	0	0	0	No	No
10/05/2021	16	3	0	16				2					
			Adult totals:										
(4) Date:	Air temp	Veg cover	Turbidity	1	0	0	0	1	0	0	0	No	No
09/06/2021	16	3	1	1				1					
			Adult totals:										
(5) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No
14/06/2021	18	5	0	0				0					
			Adult totals:										
(6) Date:	Air temp	Veg cover	Turbidity	0	0	1	0	0	0	0	0	No	No
16/06/2021	18	5	1	0				0					
			Adult totals:										
(7) Date:	Air temp	Veg cover	Turbidity	0									
			Adult totals:										
(8) Date:	Air temp	Veg cover	Turbidity	0				0					
			Adult totals:										
Peak adult count for this pond in any one visit (by torch, trap or net):												16	

Comments and constraints: Other amphibians: smooth newt (max count 2), common frog (max count 1), common toad (max count 1).

Constraints:

- Visits 4 to 6: 90-95% of pond covered with duckweed. 40-50% of banks inaccessible due to dense vegetation.
- Visit 6: temperature too high for bottle-trapping (17 degrees minimum temperature overnight).

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont- Pond 14) NB: This page prints in landscape format

Pond reference (e.g. Pond 14)		Method:		Torch		Bottle-trap		Net			Egg search	Larvae
P066		Torch power:		No. of traps used in pond:		11-50 traps		Male	Female	Imm.	eggs found?	larvae found? (any method)
No. of survey visits to this pond:		>= 1,000,000 cp		Male		Female		Imm.				
6		Sex/life stage:		Male		Female		Imm.				
(1) Date:	Air temp	Veg cover	Turbidity									
29/04/2021	11	1	3	Adult totals:	0	0	0	0	0	0	Yes	No
(2) Date:	Air temp	Veg cover	Turbidity									
13/05/2021	11	1	1	Adult totals:	16	21	0	0	0	0	No	No
(3) Date:	Air temp	Veg cover	Turbidity									
27/05/2021	9	1	2	Adult totals:	0	1	0	0	0	2	No	No
(4) Date:	Air temp	Veg cover	Turbidity									
01/06/2021	13	1	2	Adult totals:	2	13	2	0	0	0	No	No
(5) Date:	Air temp	Veg cover	Turbidity									
04/06/2021	17	2	3	Adult totals:	7	10	0	0	0	0	0	No
(6) Date:	Air temp	Veg cover	Turbidity									
07/06/2021	17	1	4	Adult totals:	1	4	5	0	0	0	No	No
(7) Date:	Air temp	Veg cover	Turbidity									
(8) Date:	Air temp	Veg cover	Turbidity	Adult totals:	0	0	0	0	0	0		
				Adult totals:	0	0	0	0	0	0		
Peak adult count for this pond in any one visit (by torch, trap or net):												
												37

Comments and constraints: Other amphibians: smooth newt (max count 8).

Constraints:

- Visit 1: air temperature dropped below 5 degrees, so no bottle trapping or torching was undertaken. Netting and egg search undertaken whilst temperature above 5 degrees.
- Visit 2: no bottle trapping due to steep banks, dense scrub and deep water (H&S concern).
- Visit 6: very turbid water constrained torching.

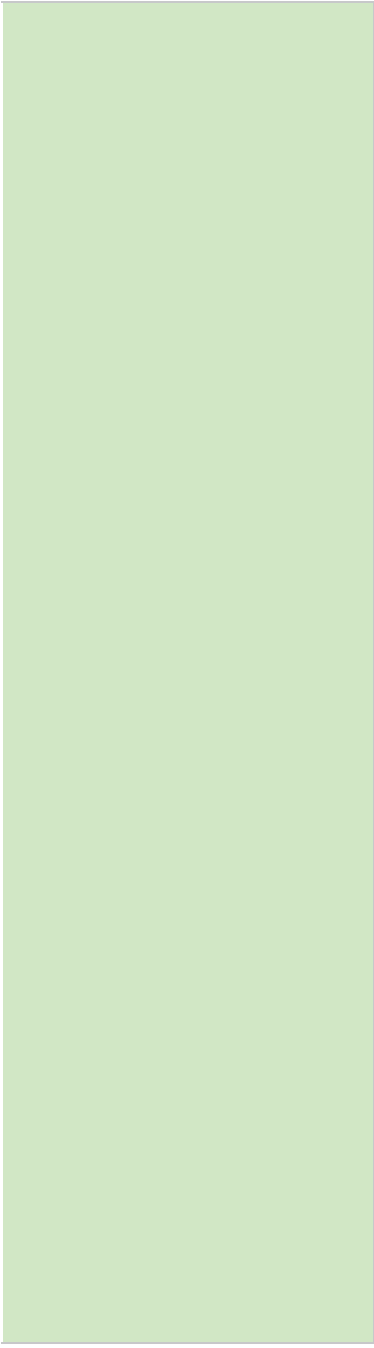
C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond 15) NB: This page prints in landscape format

Pond reference (e.g. Pond 15)		Method:		Torch		Bottle-trap		Net			Egg search	Larvae	
P067		Torch power:		No. of traps used in pond:		No. of traps used in pond:					eggs found?	larvae found? (any method)	
No. of survey visits to this pond:		>= 1,000,000 cp		1-10 traps		1-10 traps		Male	Female	Imm.			
6													
Sex/life stage:		Male		Female		Imm.		Male		Female		Imm.	
(1) Date:	Air temp	Veg cover	Turbidity										
29/04/2021	10	1	5	Adult totals:	0	0	0	0	0	0	0	No	No
(2) Date:	Air temp	Veg cover	Turbidity										
13/05/2021	11	1	4	Adult totals:	4	4	0	0	0	0	0	No	No
(3) Date:	Air temp	Veg cover	Turbidity										
01/06/2021	14	1	4	Adult totals:	1	2	0	3	6	0	0	No	No
(4) Date:	Air temp	Veg cover	Turbidity										
03/06/2021	18	0	5	Adult totals:	3	4	0	0	0	0	0	No	No
(5) Date:	Air temp	Veg cover	Turbidity										
07/06/2021	18	1	4	Adult totals:	0	2	0	0	0	0	0	No	No
(6) Date:	Air temp	Veg cover	Turbidity										
10/06/2021	17	1	3	Adult totals:	0	5	0	0	3	0	0	No	No
(7) Date:	Air temp	Veg cover	Turbidity										
				Adult totals:	5			3			0		
(8) Date:	Air temp	Veg cover	Turbidity										
				Adult totals:	0	0		0			0		
				Adult totals:	0	0		0			0		
Peak adult count for this pond in any one visit (by torch, trap or net):													
												9	

Comments and constraints: Other amphibians: smooth newt (max count 4), common toad (max count 1).

Constraints:

- Visit 1: air temperature dropped below 5 degrees, so no bottle trapping or torching undertaken. Netting undertaken whilst temperature above 5 degrees. GCN eggs found during the HSI visit, so no further egg search undertaken.
- Visits 1 to 6: steep banks and dense scrub prevented access, only 15-20% of banks accessible. No bottle trapping on visit 2 due to steep banks.



C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond 16) NB: This page prints in landscape format

Pond reference (e.g. Pond 16)		Method:		Torch		Bottle-trap		Net			Egg search	Larvae	
P079		Torch power:		No. of traps used in pond:		11-50 traps		Male	Female	Imm.	eggs found?	larvae found? (any method)	
No. of survey visits to this pond:		>= 1,000,000 cp		Male		Female		Male	Female	Imm.			
6		Sex/life stage:		Male	Female	Imm.							
(1) Date:	Air temp	Veg cover	Turbidity	13	16	0	7	0			No	No	
13/05/2021	12	2	0	Adult totals:		29	8		0				
(2) Date:	Air temp	Veg cover	Turbidity	2	11	0	0	0			No	No	
21/05/2021	11	4	0	Adult totals:		13	0		0				
(3) Date:	Air temp	Veg cover	Turbidity	11	11	0	2	0			No	No	
01/03/2021	14	3	0	Adult totals:		22	3		0				
(4) Date:	Air temp	Veg cover	Turbidity	3	9	0	0		0	0	No	No	
03/06/2021	17	4	0	Adult totals:		12	0		0				
(5) Date:	Air temp	Veg cover	Turbidity	0	5	0	9	1			No	No	
07/06/2021	18	4	1	Adult totals:		5	10		0				
(6) Date:	Air temp	Veg cover	Turbidity	4	10	0	5	0			No	No	
10/06/2021	17	4	1	Adult totals:		14	7		0				
(7) Date:	Air temp	Veg cover	Turbidity										
				Adult totals:		0	0		0				
(8) Date:	Air temp	Veg cover	Turbidity										
				Adult totals:		0	0		0				
Peak adult count for this pond in any one visit (by torch, trap or net):													
				29									

Comments and constraints: Other amphibians: smooth newt (max count 26).

Comments: GCN eggs found during the HSI visit, so no further egg search undertaken.

Constraints:

- Visits 2 to 6: steep banks and dense scrub prevented access, only 40% of banks accessible. 85% of pond surface covered in macrophytes and obscured by vegetation.

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond 17) NB: This page prints in landscape format

Pond reference (e.g. Pond 17)		Method:		Torch		Bottle-trap			Net			Egg search	Larvae
P081		Torch power:		No. of traps used in pond:		11-50 traps						eggs found?	larvae found? (any method)
No. of survey visits to this pond:		>= 1,000,000 cp		Male		Female		Imm.					
6		Sex/life stage:		Male		Female		Imm.					
(1) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.	
30/03/2021	9	0	2	Adult totals:	0	0	0	0	0	0	0	0	No
(2) Date:	Air temp	Veg cover	Turbidity	0	1	0	7	3	0	0	0	0	No
10/05/2021	12	2	2	Adult totals:	1	0	10	0	0	0	0	0	
(3) Date:	Air temp	Veg cover	Turbidity	0	0	0	2	4	0	0	0	0	No
17/05/2021	8	3	3	Adult totals:	0	0	6	0	0	0	0	0	
(4) Date:	Air temp	Veg cover	Turbidity	0	0	0	2	3	0	0	0	0	No
24/05/2021	10	1	2	Adult totals:	0	0	5	0	0	0	0	0	
(5) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	No
02/06/2021	14	5	3	Adult totals:	0	0	0	0	0	0	0	0	
(6) Date:	Air temp	Veg cover	Turbidity	0	0	0	2	0	0	0	0	0	No
08/06/2021	18	5	4	Adult totals:	0	0	2	0	0	0	0	0	
(7) Date:	Air temp	Veg cover	Turbidity	Adult totals:	0	0	0	0	0	0	0	0	
(8) Date:	Air temp	Veg cover	Turbidity	Adult totals:	0	0	0	0	0	0	0	0	
				Adult totals:	0	0	10	0	0	0	0	0	

Peak adult count for this pond in any one visit (by torch, trap or net): 10

Comments and constraints: Other amphibians: smooth newt (max count 8), common frog (max count 1), common toad (max count 1).

Constraints:

- Visits 4 and 5: dense duckweed and algae cover constrained torching.

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond 18) NB: This page prints in landscape format

Pond reference (e.g. Pond 18)		Method:		Torch			Bottle-trap			Net			Egg search	Larvae
P082		Torch power:		No. of traps used in pond:			Eggs found?			Larvae found? (any method)				
No. of survey visits to this pond:		>= 1,000,000 cp		11-50 traps										
3														
Sex/life stage:		Male		Female		Imm.		Male		Female		Imm.		
(1) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
02/06/2021	16	0	5	Adult totals:										
(2) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
08/06/2021	18	1	3	Adult totals:										
(3) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
15/06/2021	17	0	4	Adult totals:										
(4) Date:	Air temp	Veg cover	Turbidity	Adult totals:										
				Adult totals:										
(5) Date:	Air temp	Veg cover	Turbidity	Adult totals:										
				Adult totals:										
(6) Date:	Air temp	Veg cover	Turbidity	Adult totals:										
				Adult totals:										
(7) Date:	Air temp	Veg cover	Turbidity	Adult totals:										
				Adult totals:										
(8) Date:	Air temp	Veg cover	Turbidity	Adult totals:										
				Adult totals:										
Peak adult count for this pond in any one visit (by torch, trap or net):				0		0		0		0		0		

Comments and constraints: Other amphibians: smooth newt (max count 5), common toad (max count 2).

Constraints:

- Visits 1 to 3: turbid water, duckweed covered 40% of the pond's water surface.

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond 19) NB: This page prints in landscape format

Pond reference (e.g. Pond 19):		Method:		Torch			Bottle-trap			Net			Egg search	Larvae
P107		Torch power:		No. of traps used in pond:			Male			Female			eggs found?	larvae found? (any method)
No. of survey visits to this pond:		>= 1,000,000 cp		11-50 traps			Imm.			Imm.				
		6												
		Sex/life stage:		Male			Female			Imm.				
(1) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
29/03/2021	10	1	2	Adult totals:										
(2) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
20/04/2021	13	3	2	Adult totals:										
(3) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
11/05/2021	13	0	2	Adult totals:										
(4) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	1	0	0	0	No	No	
09/06/2021	17	3	1	Adult totals:		1								
(5) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	Yes	No	
14/06/2021	17	1	4	Adult totals:		0								
(6) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	
17/06/2021	17	2	2	Adult totals:										
(7) Date:	Air temp	Veg cover	Turbidity	Adult totals:			0							
(8) Date:	Air temp	Veg cover	Turbidity	Adult totals:			0							
				Adult totals:			0							
				Adult totals:			0							
Peak adult count for this pond in any one visit (by torch, trap or net):				1										

Comments and constraints: Other amphibians: smooth newt (max count 3), common frog (max count 2), common toad (max count 1).
 Constraints:
 - Visits 1 to 6: 60-90% of pond bank inaccessible due to dense vegetation.
 - Visits 5 and 6: duckweed and pondweed obscured 75% of pond water surface.

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond 20) NB: This page prints in landscape format

Pond reference (e.g. Pond 20)		Method:		Torch		Bottle-trap			Net			Egg search	Larvae	
P119		Torch power:		No. of traps used in pond:									eggs found?	larvae found? (any method)
No. of survey visits to this pond:		>= 1,000,000 cp		varies										
		4												
		Sex/life stage:												
(1) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
01/06/2021	14	1	4	0	0	0	0	0	0	0	0	0	No	No
			Adult totals:											
(2) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
03/06/2021	17	0	3	0	0	0	0	0	0	0	0	0	No	No
			Adult totals:											
(3) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
07/06/2021	18	2	5	0	0	0	0	0	0	0	0	0	No	No
			Adult totals:											
(4) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
10/06/2021	17	2	5	0	0	0	0	0	0	0	0	0	No	No
			Adult totals:											
(5) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
			Adult totals:											
(6) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
			Adult totals:											
(7) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
			Adult totals:											
(8) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
			Adult totals:											
Peak adult count for this pond in any one visit (by torch, trap or net):				0	0	0	0	0	0	0	0	0		

Comments and constraints: Other amphibians: smooth newt (max count 1).

Constraints: access very difficult to most of the pond. Only one vantage point for torch survey which is very limited by vegetation and no access to water for bottle-trapping. Pond inaccessible for visits 5 and 6.

C4.3 Aquatic amphibian survey (conventional methods) - GCN results - Pond 21

Was an aquatic amphibian survey done? **Yes** If no, proceed to next section. Return to [Ponds 1 - 10 tab](#)

Total no. of ponds surveyed: **39**

Surveyor name(s): **see previous tabs**

Important. Read before completing this section: Enter GCN survey data in relevant boxes in the table below (for Pond 1) and those on subsequent sheets (for up to 9 other ponds). Enter "0" where you did a survey and found no newts; leave box blank if no survey was done. This format is designed for a typical single season survey with typical methods and effort. Explain atypical methods/effort later. For multiple year surveys, give details in annex (convert data to this format if possible). Use these tables to provide details only for the most recent season's survey. Append older survey results in full. Automatic yellow highlight indicates possible detectability problem (see Evaluation & interpretation section, later).

Pond reference (e.g. "Pond 21") - below		Method:		Torch			Bottle-trap			Net			Egg search		Larvae	
				Torch power:			No. of traps used in pond:						eggs found?		larvae found? (any method)	
				>= 1,000,000 cp			1-10 traps									
				Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.				
				Sex/life stage:												
				Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.				
P120																
No. of survey visits to this pond:		6		Sex/life stage:												
(1) Date:	Air temp	Veg cover	Turbidity													
13/05/2021	12	4	3	Adult totals:	0	0	0	0	0	0	0	0	0	0	0	No
(2) Date:	Air temp	Veg cover	Turbidity													
21/05/2021	11	4	3	Adult totals:	0	0	0	0	0	0	0	0	0	0	0	No
(3) Date:	Air temp	Veg cover	Turbidity													
01/06/2021	18	4	4	Adult totals:	0	0	0	0	0	0	0	0	0	0	0	No
(4) Date:	Air temp	Veg cover	Turbidity													
03/06/2021	17	1	3	Adult totals:	0	0	0	0	0	0	0	0	0	0	0	No
(5) Date:	Air temp	Veg cover	Turbidity													
07/06/2021	18	2	3	Adult totals:	0	0	0	0	0	0	0	0	0	0	0	No
(6) Date:	Air temp	Veg cover	Turbidity													
10/06/2021	17	2	1	Adult totals:	0	0	0	1	1	0	0	0	0	0	0	No
(7) Date:	Air temp	Veg cover	Turbidity													
				Adult totals:	0	0	0	2	2	0	0	0	0	0	0	No
(8) Date:	Air temp	Veg cover	Turbidity													
				Adult totals:	0	0	0	0	0	0	0	0	0	0	0	No
Peak adult count for this pond in any one visit (by torch, trap or net):																

Comments and constraints: **Other amphibians: smooth newt (max count 5).**

Comments: likely links to P119 in winter.

Constraints: Algae covering much of the pond, difficult to torch. Dense scrub limited access to 50% of the banks.

NB: This page prints in landscape format

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont.)

Pond reference (e.g. Pond 22)		Method:		Torch		Bottle-trap		Net			Egg search	Larvae
P121		Torch power:		No. of traps used in pond:		11-50 traps		Male	Female	Imm.	eggs found?	larvae found? (any method)
No. of survey visits to this pond:		>= 1,000,000 cp		Male		Female		Imm.				
6		Sex/life stage:		Male		Female		Imm.				
(1) Date:	Air temp	Veg cover	Turbidity	0	0	0	3	0			No	No
13/05/2021	11	4	1	Adult totals:		0	3	0				
(2) Date:	Air temp	Veg cover	Turbidity	0	1	0	0	0			No	No
21/05/2021	11	4	1	Adult totals:		0	0	0				
(3) Date:	Air temp	Veg cover	Turbidity	0	0	1	0	0			No	No
01/06/2021	14	3	2	Adult totals:		0	0	0				
(4) Date:	Air temp	Veg cover	Turbidity	0	2	0	0	0	0	0	No	No
03/06/2021	18	4	1	Adult totals:		0	0	0				
(5) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0			No	No
07/06/2021	18	4	2	Adult totals:		0	0	0				
(6) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0			No	No
10/06/2021	17	5	1	Adult totals:		0	0	0				
(7) Date:	Air temp	Veg cover	Turbidity	Adult totals:		0		0				
(8) Date:	Air temp	Veg cover	Turbidity	Adult totals:		0		0				
Peak adult count for this pond in any one visit (by torch, trap or net):				3								

Comments and constraints: Other amphibians: smooth newt (max count 37).

Comments: GCN egg found during HSI visit, so no further egg search undertaken.

Constraints: 60% of bank inaccessible and 90-95% macrophyte cover, constrained bottle trapping and torching.

NB: This page prints in landscape format

C4.3 Aquatic amphibian survey (conventional surveys - GCN results (cont.))

Pond reference (e.g. Pond 23)		Method:		Torch		Bottle-trap		Net			Egg search	Larvae	
P123		Torch power:		No. of traps used in pond:		1-10 traps		Male	Female	Imm.	eggs found?	larvae found? (any method)	
No. of survey visits to this pond:		>= 1,000,000 cp		Male		Female		Male	Female	Imm.			
6		Sex/life stage:		Imm.		Imm.							
(1) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.	
13/05/2021	12	2	2	9	5	0	0	3	0	0	0	0	No
			Adult totals:	14			3						
(2) Date:	Air temp	Veg cover	Turbidity	6	4	0	0	0	0	0	0	0	No
20/05/2021	12	3	2	10			0			0			
			Adult totals:	6	3	0	0	0	0	0	0	0	No
(3) Date:	Air temp	Veg cover	Turbidity	9	0	0	0	0	0	0	0	0	No
27/05/2021	9	2	2	9			0			0			
			Adult totals:	0	0	0	0	0	0	0	0	0	No
(4) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	No
01/06/2021	14	3	1	0			0			0			
			Adult totals:	2	1	0	0	0	0	0	0	0	No
(5) Date:	Air temp	Veg cover	Turbidity	2	3	0	0	0	0	0	0	0	No
04/06/2021	17	4	2	3			0			0			
			Adult totals:	0	0	0	0	0	0	0	0	0	No
(6) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	No
07/06/2021	16	5	2	0			0			0			
			Adult totals:	0	0	0	0	0	0	0	0	0	No
(7) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	No
			Adult totals:	0	0	0	0	0	0	0	0	0	No
(8) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	No
			Adult totals:	0	0	0	0	0	0	0	0	0	No
Peak adult count for this pond in any one visit (by torch, trap or net):										14			

Comments and constraints: Other amphibians: smooth newt (max count 14), common toad (max count 1).

Constraints:

- Plastic pond lining, bottle-trap canes were instered horizontally into bank on first survey visit. No bottle-traps during visits 2 to 6.
- Only 40% of bank accessible to survey. Duckweed covering 90-95% of water surface.

NB: This page prints in landscape format

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont.)

Pond reference (e.g. Pond 24)		Method:		Torch		Bottle-trap			Net			Egg search	Larvae
P126		Torch power:		No. of traps used in pond:			Eggs found?			Larvae found? (any method)			
No. of survey visits to this pond: 2		>= 1,000,000 cp			11-50 traps								
Sex/life stage:		Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.	Yes	No	
(1) Date:	Air temp	21	6	0	3	0	0	0	0	0	Yes	No	
27/04/2021	Veg cover	27	27	0	3	0	0	0	0	0			
(2) Date:	Air temp	12	28	0	0	1	0	0	0	0	No	No	
10/05/2021	Veg cover	40	40	1	1	0	0	0	0	0			
(3) Date:	Air temp												
	Veg cover												
(4) Date:	Air temp	0	0	0	0	0	0	0	0	0			
	Veg cover												
(5) Date:	Air temp	0	0	0	0	0	0	0	0	0			
	Veg cover												
(6) Date:	Air temp	0	0	0	0	0	0	0	0	0			
	Veg cover												
(7) Date:	Air temp	0	0	0	0	0	0	0	0	0			
	Veg cover												
(8) Date:	Air temp	0	0	0	0	0	0	0	0	0			
	Veg cover												
Peak adult count for this pond in any one visit (by torch, trap or net):					40								

Comments and constraints: Other amphibians: smooth newt (max count 1).

Constraints: landowner did not allow further access to pond after two visits.

NB: This page prints in landscape format

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont.)

Pond reference (e.g. Pond 25)		Method:		Torch		Bottle-trap			Net			Egg search	Larvae
Pt30		Torch power:		No. of traps used in pond:			Eggs found?			Larvae found? (any method)			
No. of survey visits to this pond:		>= 1,000,000 cp		11-50 traps									
		6											
		Sex/life stage:											
(1) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.	No
29/04/2021	6	4	1	0	0	0	0	1	0	0	0	0	No
(2) Date:	Air temp	Veg cover	Turbidity	Adult totals:									No
10/05/2021	12	4	1	0	0	0	0	0	0	0	0	0	No
(3) Date:	Air temp	Veg cover	Turbidity	Adult totals:									No
17/05/2021	8	3	2	0	0	0	0	0	0	0	0	0	No
(4) Date:	Air temp	Veg cover	Turbidity	Adult totals:									No
24/05/2021	10	5	2	0	0	0	0	2	0	0	0	0	No
(5) Date:	Air temp	Veg cover	Turbidity	Adult totals:									No
09/06/2021	16	1	3	0	0	0	0	1	0	0	0	0	No
(6) Date:	Air temp	Veg cover	Turbidity	Adult totals:									No
14/06/2021	18	1	4	0	0	0	0	3	0	0	0	0	No
(7) Date:	Air temp	Veg cover	Turbidity	Adult totals:									
				0	0	0	0	0	0	0	0	0	
(8) Date:	Air temp	Veg cover	Turbidity	Adult totals:									
				0	0	0	0	0	0	0	0	0	
Peak adult count for this pond in any one visit (by torch, trap or net):				3									

Comments and constraints: Other amphibians: smooth newt (max count 6).

Constraints:

- Dense duckweed and bulrush cover: 80% (visit 4), 95% (visit 5), 100% (visit 6).
- Visit 5: 85% of bank inaccessible due to dense vegetation.

NB: This page prints in landscape format

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont.)

Pond reference (e.g. Pond 26)		Method:		Torch		Bottle-trap				Net			Egg search	Larvae
P135		Torch power:		No. of traps used in pond:		11-50 traps							eggs found?	larvae found? (any method)
No. of survey visits to this pond:		>= 1,000,000 cp		Male		Female		Imm.						
6		Sex/life stage:		Male		Female		Imm.						
(1) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0				No	No
28/04/2021	8	1	0	Adult totals:										
(2) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0				No	No
11/05/2021	13	2	3	Adult totals:										
(3) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0				No	No
19/05/2021	13	1	4	Adult totals:										
(4) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0				No	No
25/05/2021	11	2	4	Adult totals:										
(5) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0				No	No
08/06/2021	18	0	3	Adult totals:										
(6) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0				Yes	No
15/06/2021	16	1	2	Adult totals:										
(7) Date:	Air temp	Veg cover	Turbidity	Adult totals:										
				Adult totals:										
(8) Date:	Air temp	Veg cover	Turbidity	Adult totals:										
				Adult totals:										
Peak adult count for this pond in any one visit (by torch, trap or net):				0		0		0						

Comments and constraints: Other amphibians: smooth newt (max count 3).

Constraints:

- Limited access to pond bank (only 10%).
- Turbid water (visits 3 and 4).

NB: This page prints in landscape format

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont.)

Pond reference (e.g. Pond 27)		Method:		Torch		Bottle-trap			Net			Egg search	Larvae
P136		Torch power:		No. of traps used in pond:			Eggs found?			Larvae found? (any method)			
No. of survey visits to this pond:		>= 1,000,000 cp		1-10 traps									
1		Sex/life stage:			Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	No	No	
29/04/2021	6	3	4	Adult totals:									
(2) Date:	Air temp	Veg cover	Turbidity										
				Adult totals:									
(3) Date:	Air temp	Veg cover	Turbidity										
				Adult totals:									
(4) Date:	Air temp	Veg cover	Turbidity										
				Adult totals:									
(5) Date:	Air temp	Veg cover	Turbidity										
				Adult totals:									
(6) Date:	Air temp	Veg cover	Turbidity										
				Adult totals:									
(7) Date:	Air temp	Veg cover	Turbidity										
				Adult totals:									
(8) Date:	Air temp	Veg cover	Turbidity										
				Adult totals:									
Peak adult count for this pond in any one visit (by torch, trap or net):				0			0			0			

Comments and constraints:

Constraints:
 - Visit 1: steep banks and dense bramble prevented access to two sides of the pond.
 - Only one visit undertaken due to H&S constraints (landowner was verbally abusive to surveyors during the first visit).

NB: This page prints in landscape format

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont.)

Pond reference (e.g. Pond 28)		Method:		Torch			Bottle-trap			Net			Egg search	Larvae
P137		Torch power:		No. of traps used in pond:			Eggs found?			Larvae found? (any method)				
No. of survey visits to this pond: 6		>= 1,000,000 cp			11-50 traps									
Sex/life stage:		Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.				
(1) Date:	Air temp	Veg cover	Turbidity	3	2	0	0	2	0	0				No
28/04/2021	7	3	1	Adult totals:	5		2		0					
(2) Date:	Air temp	Veg cover	Turbidity	1	1	0	0	0	0	0				No
12/05/2021	13	2	2	Adult totals:	2		0		0					
(3) Date:	Air temp	Veg cover	Turbidity	0	1	0	0	0	0	0				No
14/06/2021	18	4	2	Adult totals:	1		0		0					
(4) Date:	Air temp	Veg cover	Turbidity	0										No
17/06/2021	N/A	N/A	N/A	Adult totals:	0		0		0					
(5) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0				Yes
21/06/2021	14	4	2	Adult totals:	0		0		0					
(6) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0				No
23/06/2021	13	4	0	Adult totals:	0		0		0					
(7) Date:	Air temp	Veg cover	Turbidity	0										
(8) Date:	Air temp	Veg cover	Turbidity	0					0					
				Adult totals:	0		0		0					
				Adult totals:	0		0		0					
Peak adult count for this pond in any one visit (by torch, trap or net):														5

Comments and constraints: Other amphibians: smooth newt (max count 1).

Constraints:

- Visit 2: 50% of pond bank inaccessible.
- Visit 3: very low water level.
- Visit 4: livestock prevented surveying.

NB: This page prints in landscape format

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont.)

Pond reference (e.g. Pond 29):		Method:		Torch		Bottle-trap		Net			Egg search	Larvae	
P140		Torch power:		No. of traps used in pond:		11-50 traps		Male	Female	Imm.	eggs found?	larvae found? (any method)	
No. of survey visits to this pond:		>= 1,000,000 cp		Male		Female		Male		Female		Imm.	
Sex/life stage:		Male		Female		Imm.		Male		Female		Imm.	
(1) Date:	Air temp	Veg cover	Turbidity	0	1	0	0	0	0	0	Yes	No	
30/03/2021	9	4	1	Adult totals:		0		0					
(2) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	No	No	
28/04/2021	11	4	1	Adult totals:		0		0					
(3) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	No	No	
12/05/2021	13	3	2	Adult totals:		0		0					
(4) Date:	Air temp	Veg cover	Turbidity								No	No	
14/06/2021	N/A	N/A	N/A	Adult totals:		0		0					
(5) Date:	Air temp	Veg cover	Turbidity								No	No	
17/06/2021	N/A	N/A	N/A	Adult totals:		0		0					
(6) Date:	Air temp	Veg cover	Turbidity	1	0	0	0	1	2	0	No	No	
21/06/2021	14	3	0	Adult totals:		1		3					
(7) Date:	Air temp	Veg cover	Turbidity										
				Adult totals:		0		0					
(8) Date:	Air temp	Veg cover	Turbidity										
				Adult totals:		0		0					
Peak adult count for this pond in any one visit (by torch, trap or net):				3		0		0					

Comments and constraints: Other amphibians: smooth newt (max count 1).

- Visit 3: water level low.
- Visit 4: dry pond.
- Visit 5: livestock prevented surveying.
- Visit 6: only 10m of bank accessible. Dense macrophyte growth.

NB: This page prints in landscape format

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont.)

Pond reference (e.g. Pond 30)		Method:		Torch		Bottle-trap			Net			Egg search	Larvae
P143		Torch power:		No. of traps used in pond:			Eggs found?			Larvae found? (any method)			
No. of survey visits to this pond:		>= 1,000,000 cp		1-10 traps									
6		Sex/life stage:			Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	Yes	No	
28/04/2021	8	3	3	Adult totals:			0	0	0				
(2) Date:	Air temp	Veg cover	Turbidity	0	0	0	5	0	0	0	No	No	
11/05/2021	13	3	3	Adult totals:			5	0	0				
(3) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	No	No	
19/05/2021	13	1	4	Adult totals:			0	0	0				
(4) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	No	No	
02/06/2021	16	0	3	Adult totals:			0	0	0				
(5) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	1	0	0	No	No	
08/06/2021	16	1	2	Adult totals:			1	0	0				
(6) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	2	0	0	No	No	
15/06/2021	16	0	2	Adult totals:			2	0	0				
(7) Date:	Air temp	Veg cover	Turbidity	Adult totals:			0	0	0	0			
(8) Date:	Air temp	Veg cover	Turbidity	Adult totals:			0	0	0	0			
Peak adult count for this pond in any one visit (by torch, trap or net):							5						

Comments and constraints: Other amphibians: smooth newt (max count 1), common frog (max count 1), common toad (max count 1).
 Constraints:
 - Visits 1, 4, 5 and 6: dense duckweed covered water surface.
 - Visit 6: 60% bank inaccessible due to steep banks and scrub.

C4.3 Aquatic amphibian survey (conventional methods) - GCN results - Pond 31

Was an aquatic amphibian survey done? **Yes** If no, proceed to next section. Return to [Ponds 1 - 10 tab](#)

Total no. of ponds surveyed: **39**

Surveyor name(s): **see previous tabs**

Important. Read before completing this section: Enter GCN survey data in relevant boxes in the table below (for Pond 1) and those on subsequent sheets (for up to 9 other ponds). Enter "0" where you did a survey and found no newts; leave box blank if no survey was done. This format is designed for a typical single season survey with typical methods and effort. Explain atypical methods/effort later. For multiple year surveys, give details in annex (convert data to this format if possible). Use these tables to provide details only for the most recent season's survey. Append older survey results in full. Automatic yellow highlight indicates possible detectability problem (see Evaluation & interpretation section, later).

Pond reference (e.g. "Pond 31") - below		Method:		Torch			Bottle-trap			Net			Egg search eggs found?	Larvae found? (any method)
		Sex/life stage:	Torch power:	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
No. of survey visits to this pond:		6		>= 1,000,000 cp			1-10 traps							
(1) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
30/03/2021	9	0		0	0	0	0	0	0	0	0	0	No	No
(2) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
29/04/2021	6	5		0	0	0	0	0	0	0	0	0	No	No
(3) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
10/05/2021	12	2		0	0	0	1	0	0	0	0	0	No	No
(4) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
17/05/2021	8	4		0	0	0	0	0	0	0	0	0	No	No
(5) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
24/05/2021	10	3		0	0	0	0	0	0	0	0	0	No	No
(6) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
02/06/2021	14	0		0	0	0	0	0	0	0	0	0	No	No
(7) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
				0	0	0	0	0	0	0	0	0		
(8) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
				0	0	0	0	0	0	0	0	0		
Peak adult count for this pond in any one visit (by torch, trap or net):														
												1		

Comments and constraints: **Other amphibians: smooth newt (max count 2).**

Constraints:

- Visit 2: duckweed covering 90% of pond.
- Visit 6: pond too shallow to bottle-trap.

NB: This page prints in landscape format

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont.)

Pond reference (e.g. Pond 32)		Method:		Torch		Bottle-trap		Net			Egg search	Larvae	
P164		Torch power:		No. of traps used in pond:		11-50 traps		Male	Female	Imm.	eggs found?	larvae found? (any method)	
No. of survey visits to this pond:		>= 1,000,000 cp		Male		Female		Male	Female	Imm.	0 Yes	No	
6		Sex/life stage:		Male		Female		Male		Female		Imm.	
(1) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	1	0	0	Yes	No
13/05/2021	11	2	0	Adult totals:		0		1					
(2) Date:	Air temp	Veg cover	Turbidity	0	2	0	0	0	0	0	No	No	No
27/05/2021	9	2	2	Adult totals:		0		0					
(3) Date:	Air temp	Veg cover	Turbidity	0	0	0	1	0	0	0	No	No	No
01/06/2021	12	2	2	Adult totals:		1		0					
(4) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	No	No	No
04/06/2021	17	4	2	Adult totals:		0		0					
(5) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	No	No	No
07/06/2021	17	3	1	Adult totals:		0		0					
(6) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	No	No	No
10/06/2021	17	3	1	Adult totals:		0		0					
(7) Date:	Air temp	Veg cover	Turbidity	Adult totals:		0		0					
(8) Date:	Air temp	Veg cover	Turbidity	Adult totals:		0		0					
				Adult totals:		0		0					
Peak adult count for this pond in any one visit (by torch, trap or net):											2		

Comments and constraints: smoot newt (max count 1).

Constraints:

- Visit 1: only 60% of bank surveyed due to dense vegetation.
- Visit 4: macrophyte cover has increased which constraints torching survey.
- Visit 5: edge of pond is heavily vegetated.

NB: This page prints in landscape format

C4.3 Aquatic amphibian survey (conventional surveys - GCN results (cont.))

Pond reference (e.g. Pond 33)		Method:		Torch		Bottle-trap			Net			Egg search	Larvae	
P166		Torch power:		No. of traps used in pond:									larvae	
No. of survey visits to this pond:		>= 1,000,000 cp		1-10 traps									found? (any method)	
6		Sex/life stage:			Male	Female	Imm.	Male	Female	Imm.				
(1) Date:	Air temp	Veg cover	Turbidity	0	0	0	1	0			No	No		
13/05/2021	12	0	4	Adult totals:		1	0							
(2) Date:	Air temp	Veg cover	Turbidity	0	1	0	1	0			No	No		
20/05/2021	12	0	3	Adult totals:		1	0							
(3) Date:	Air temp	Veg cover	Turbidity	0	0	0	3	0			No	No		
27/05/2021	9	0	4	Adult totals:		3	0							
(4) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0			No	No		
01/06/2021	14	0	5	Adult totals:		0	0							
(5) Date:	Air temp	Veg cover	Turbidity	2	1	0	0	0	0	0	0	No	No	
04/06/2021	17	0	4	Adult totals:		3	0							
(6) Date:	Air temp	Veg cover	Turbidity	0	0	0	1	0	0	0	No	No		
07/06/2021	17	0	4	Adult totals:		1	0							
(7) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0						
				Adult totals:		0	0							
(8) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0						
				Adult totals:		0	0							
Peak adult count for this pond in any one visit (by torch, trap or net):							3							

Comments and constraints: Other amphibians: smooth newt (max count 2), common frog (max count 1).

Constraints:

- Visit 3: 50% of bank surveyed due to dense vegetation.
- Visit 6: very turbid.

NB: This page prints in landscape format

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont.)

Pond reference (e.g. Pond 34)		Method:		Torch			Bottle-trap			Net			Egg search	Larvae
P167		Torch power:		No. of traps used in pond:			Eggs found?			Larvae found? (any method)				
No. of survey visits to this pond:		>= 1,000,000 cp		1-10 traps										
(1) Date:	Air temp	Veg cover	Turbidity	Sex/life stage:			Male			Female			Imm.	No
				Male	Female	Imm.	Male	Female	Imm.					
13/05/2021	12	0	2	0	0	0	0	0	0	0	0	0	No	No
(2) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	No	No
20/05/2021	12	0	1	0	0	0	0	0	0	0	0	0	No	No
(3) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	No	No
27/05/2021	9	0	1	0	0	0	0	0	0	0	0	0	No	No
(4) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	No	No
01/06/2021	14	0	1	0	0	0	0	0	0	0	0	0	No	No
(5) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	No	No
04/06/2021	17	3	3	0	0	0	0	0	0	0	0	0	No	No
(6) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	No	No
07/06/2021	16	0	1	0	0	0	0	0	0	0	0	0	No	No
(7) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	No	No
(8) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	0	No	No
Peak adult count for this pond in any one visit (by torch, trap or net):				0	0	0	0	0	0	0	0	0		

Comments and constraints:

- Constraints:
- Pond almost completely dry on visits 5 and 6.
- Visit 5: too shallow to bottle trap, netting undertaken.
- Visit 6: too shallow to either bottle trap or net.

NB: This page prints in landscape format

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont.)

Pond reference (e.g. Pond 35)		Method:		Torch		Bottle-trap			Net			Egg search	Larvae
PZ10		Torch power:		No. of traps used in pond:			Eggs found?			Larvae found? (any method)			
No. of survey visits to this pond:		>= 1,000,000 cp		11-50 traps									
6		Sex/life stage:			Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity	0	0	0	1	0			No	No	
28/04/2021	8	3	4	Adult totals:			1	0					
(2) Date:	Air temp	Veg cover	Turbidity	1	0	0	1	0			No	No	
11/05/2021	13	2	3	Adult totals:			1	0					
(3) Date:	Air temp	Veg cover	Turbidity	1	0	0	1	0			No	No	
19/05/2021	13	1	3	Adult totals:			1	0					
(4) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0			No	No	
25/05/2021	11	4	3	Adult totals:			0	0					
(5) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0			No	No	
02/06/2021	15	0	3	Adult totals:			0	0					
(6) Date:	Air temp	Veg cover	Turbidity	0	0	0	1	0			No	No	
08/06/2021	18	5	2	Adult totals:			1	0					
(7) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0					
				Adult totals:			0	0					
(8) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0					
				Adult totals:			0	0					
Peak adult count for this pond in any one visit (by torch, trap or net):							1						

Comments and constraints: Other amphibians: smooth newt (max count 1), common frog (max count 2).

Constraints:

- Visit 1: no aquatic vegetation, so no egg search undertaken.
- Vists 4 to 6: dense duckweed cover.

NB: This page prints in landscape format

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont.)

Pond reference (e.g. Pond 16)		Method:		Torch		Bottle-trap			Net			Egg search	Larvae		
P211		Torch power:		No. of traps used in pond:											
No. of survey visits to this pond:		>= 1,000,000 cp		1-10 traps											
5		Sex/life stage:			Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.	eggs found?	larvae found? (any method)
(1) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	0	0	0	0	0	No	No
31/03/2021	9	0	4	Adult totals:											
(2) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	0	0	0	0	0	No	No
28/04/2021	7	0	4	Adult totals:											
(3) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	0	0	0	0	0	No	No
12/05/2021	13	0	2	Adult totals:											
(4) Date:	Air temp	Veg cover	Turbidity											No	No
14/06/2021	19	0	2	Adult totals:											
(5) Date:	Air temp	Veg cover	Turbidity											No	No
21/06/2021	N/A	N/A	N/A	Adult totals:											
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:											
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:											
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:											
Peak adult count for this pond in any one visit (by torch, trap or net):															

Comments and constraints:

Constraints:

- Thick vegetation around the pond. Only a small area was accessible safely to deploy bottles (visits 1 and 2). Pond inaccessible from visit 3 onwards.

NB: This page prints in landscape format

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont.)

Pond reference (e.g. Pond 37)		Method:		Torch		Bottle-trap			Net			Egg search	Larvae
P215		Torch power:		No. of traps used in pond:			Eggs found?			Larvae found? (any method)			
No. of survey visits to this pond:		>= 1,000,000 cp		1-10 traps									
4		Sex/life stage:			Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity	Male	Female	Imm.	Male	Female	Imm.		No	No	
27/04/2021	10	4	2	0	0	0	0	0	0				
(2) Date:	Air temp	Veg cover	Turbidity	Adult totals:							No	No	
10/05/2021	13	3	3	0	0	3	0	0	0				
(3) Date:	Air temp	Veg cover	Turbidity	Adult totals:							No	No	
09/06/2021	16	N/A	N/A	0	0	0	0	0	0				
(4) Date:	Air temp	Veg cover	Turbidity	Adult totals:							No	No	
23/06/2021	14	3	0	0	0	0	0	0	0				
(5) Date:	Air temp	Veg cover	Turbidity	Adult totals:									
				0	0	0	0	0	0				
(6) Date:	Air temp	Veg cover	Turbidity	Adult totals:									
				0	0	0	0	0	0				
(7) Date:	Air temp	Veg cover	Turbidity	Adult totals:									
				0	0	0	0	0	0				
(8) Date:	Air temp	Veg cover	Turbidity	Adult totals:									
				0	0	0	0	0	0				
Peak adult count for this pond in any one visit (by torch, trap or net):				3									

Comments and constraints: Other amphibians: smooth newt (max count 6).

Constraints: Pond dry after visit 4.

NB: This page prints in landscape format

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont.)

Pond reference (e.g. Pond 38)		Method:		Torch			Bottle-trap			Net			Egg search	Larvae					
P036		Torch power:		No. of traps used in pond:			Eggs found?			Larvae found? (any method)									
No. of survey visits to this pond:		>= 1,000,000 cp		11-50 traps															
Sex/life stage:		Male			Female			Imm.			Male			Female			Imm.		
(1) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	No					
13/05/2021	12	1	3	Adult totals:															
(2) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	No					
20/05/2021	12	3	3	Adult totals:															
(3) Date:	Air temp	Veg cover	Turbidity	0	1	0	0	0	0	0	0	Yes	No	No					
27/05/2021	9	2	2	Adult totals:															
(4) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	1	0	0	0	No	No	No					
01/06/2021	14	3	4	Adult totals:															
(5) Date:	Air temp	Veg cover	Turbidity	0	3	0	0	0	0	0	0	No	No	No					
03/06/2021	16	1	3	Adult totals:															
(6) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No	No					
07/06/2021	17	2	4	Adult totals:															
(7) Date:	Air temp	Veg cover	Turbidity	Adult totals:															
				0	0	0	0	0	0	0	0								
(8) Date:	Air temp	Veg cover	Turbidity	Adult totals:															
				0	0	0	0	0	0	0	0								
Peak adult count for this pond in any one visit (by torch, trap or net):							3												

Comments and constraints: Other amphibians: smooth newt (max count 5), common frog (max count 1).

Constraints:

- All visits constrained by duckweed covering pond surface.
- Only 20% of pond banks accessible due to dense vegetation.

NB: This page prints in landscape format

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont.)

Pond reference (e.g. Pond 39):		Method:		Torch		Bottle-trap			Net			Egg search	Larvae
P057		Torch power:		No. of traps used in pond:			Eggs found?			Larvae found? (any method)			
No. of survey visits to this pond:		>= 1,000,000 cp		1-10 traps									
(1) Date:	Air temp	Veg cover	Turbidity	Sex/life stage:		Male		Female		Imm.		Yes	No
				Male	Female	Imm.	Male	Female	Imm.				
20/04/2021	7	1	4	0	1	0	0	0	0	0	0	Yes	No
(2) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No
26/04/2021	7	1	2	0	0	0	0	0	0	0	0	No	No
(3) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No
19/05/2021	9	2	3	0	0	0	0	0	0	0	0	No	No
(4) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No
26/05/2021	8	2	3	0	0	0	0	0	0	0	0	No	No
(5) Date:	Air temp	Veg cover	Turbidity	0	0	0	0	0	0	0	0	No	No
15/06/2021	14	2	3	0	0	0	0	0	0	0	0	No	No
(6) Date:	Air temp	Veg cover	Turbidity	Adult totals:									
(7) Date:	Air temp	Veg cover	Turbidity	Adult totals:		0		0		0			
(8) Date:	Air temp	Veg cover	Turbidity	Adult totals:		0		0		0			
Peak adult count for this pond in any one visit (by torch, trap or net):				Adult totals:		0		0		0			

Comments and constraints: Constraints:
 - Visit 1: high water turbidity.
 - Visits 1 and 4: scrub limited access to banks: 30% accessible visit 1, 10% accessible visit 4.

NB: This page prints in landscape format

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont.)

Pond reference (e.g. Pond 40)		Method:		Torch			Bottle-trap			Net			Egg search	Larvae
No. of survey visits to this pond:		Torch power:		No. of traps used in pond:			Eggs found?			Larvae found? (any method)				
		Sex/life stage:		Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
(1) Date:	Air temp	Veg cover	Turbidity											
		Adult totals:		0	0	0	0	0	0	0	0	0		
(2) Date:	Air temp	Veg cover	Turbidity											
		Adult totals:		0	0	0	0	0	0	0	0	0		
(3) Date:	Air temp	Veg cover	Turbidity											
		Adult totals:		0	0	0	0	0	0	0	0	0		
(4) Date:	Air temp	Veg cover	Turbidity											
		Adult totals:		0	0	0	0	0	0	0	0	0		
(5) Date:	Air temp	Veg cover	Turbidity											
		Adult totals:		0	0	0	0	0	0	0	0	0		
(6) Date:	Air temp	Veg cover	Turbidity											
		Adult totals:		0	0	0	0	0	0	0	0	0		
(7) Date:	Air temp	Veg cover	Turbidity											
		Adult totals:		0	0	0	0	0	0	0	0	0		
(8) Date:	Air temp	Veg cover	Turbidity											
		Adult totals:		0	0	0	0	0	0	0	0	0		
Peak adult count for this pond in any one visit (by torch, trap or net):				0			0			0				

Comments and constraints:

C5 Interpretation and evaluation**Summary of presence, peak count, population size class and habitat quality**

Enter whether GCNs (any life stage) were detected for each pond, and HSI score for each pond subject to adverse impacts (see guidance in instructions). The other fields (in blue) should be generated automatically based on data you have entered in previous sheets.

Pond ref	Gt. crested newts detected?	Peak adult count	Pop size class	HSI	Low detectability warning*	Peak count visit number	Eggs
P032		0			Caution		Yes
P035		0			Caution		No
P041		0			Caution		No
P043		0			Caution		No
P045		0					No
P048		58	Medium		Caution	4	Yes
P049		17	Medium		Caution	2	Yes
P051		5	Small		Caution	3	No
P052		0			Caution		Yes
P053		0			Caution		No

***Note: The detectability column will state "Caution" if your data suggest any survey was done in poor conditions (temp<5C, veg cover>3, turbidity>3 or torch power <500,000 cp); otherwise it is blank. Aquatic newt surveys should not be carried out when air temp is <5C or with weak torches as results can be misleading. Whilst careful timing can sometimes avoid vegetation and turbidity problems, they are inevitable at some sites. It may be appropriate to undertake more detailed surveys and interpretation techniques (e.g. CMR). If this column returns "Caution", or there is any other reason to suspect detectability problems, you should be especially careful about interpreting counts, and comment on this in the constraints box below.**

Peak total site count** for all ponds surveyed: 200

** This figure is derived as follows. For each survey visit, the spreadsheet picks the highest count of adult newts obtained by torch, net or bottle-trap for each pond. These individual pond counts are then summed to give a site count for each visit. The peak total site count is then the highest of these figures, i.e. highest summed count across all ponds attained on any one visit. This figure may derive from counts using a mixture of methods (torch, bottle-trap or net) - see adjacent table which shows how the figure is derived. The calculations assume survey visits per pond are undertaken within similar timeframes, if this is not the case, this Peak total site count should be calculated by hand and reasons for it explained in the general comments text box below.

Population size class for all ponds surveyed: Large

*** this automatically generated size class assumes that it is appropriate to aggregate counts from all ponds, i.e. there is likely to be newt movement between ponds, for example where each pond is within approx 250m of another, with no significant barriers to dispersal. If you believe the automatically generated size class is incorrect for your site, provide your ecological justification in box below and give alternative accounts of peak total site counts and population size class for the site. Where there are meta-populations explain which ponds form each meta-population. For surveys of >10 ponds, data should be added to appendix provided, and note that peak counts etc will need to be derived separately.

The site covers an extensive area and as such a peak total site count and overall site status assessment is unrepresentative. Ponds found or assumed to support GCN have been separated into four metapopulations; a further four ponds (P049, P057, P061 and P130) have been considered as isolated populations. SLR01 supported a small population size class and the remaining metapopulations (SLR02 to SLR04) supported a medium population size class. P049, P057, P061 and P130 supported medium, medium, small and small populations size classes, respectively. Please note that due to the suboptimal nature of the majority of the habitats within the site boundary and (for some metapopulations) the distance from GCN ponds, a small or medium population size class is considered a more appropriate representation of the sites affected habitats.

For the full survey summary, please see Additional Sheet C - Survey Info - Tab C. For the full survey constraints and how these could affect the data please see Additional Sheet C - Survey Info - Tab C5. A detailed description of each metapopulation and justification of extent and class size is provided in Additional Sheet C - Detailed Metapopulations Description.

C - Survey summary

Site status assessment (see Section 5.8.5 of *Great crested newt mitigation guidelines* for guidance):

Quantitative	Moderate importance - medium population
Qualitative	Moderate - breeding on site; habitats common in area
Functional	Moderate importance - probably some dispersal to/from nearby population(s)
Contextual	Minor importance - population size lower than in surrounding area

General comments on overall site status, and constraints to interpretation and evaluation -

How did the constraints affect your interpretation of your survey?

- Account for the presence of any barriers to dispersal and explain how this affects your assessment of the distribution of newts across the site and the presence of meta-populations

The majority of the habitats within the site are considered suboptimal for GCN and provide little or no motivation for habitation. Further, the site is bisected by several roads that are not considered a complete barrier to dispersal but are likely to restrict/inhibit GCN movements to various degrees dependant on distance from GCN ponds and motivators on the 'other side' of the 'barrier'.

A detailed description of each metapopulation and justification of extent and class size is provided in Additional Sheet C - Detailed Metapopulations Description.

- Acknowledge any survey constraints e.g. low detectability warnings (as highlighted in section C5 above), deviation from survey recommendations in the GCNMG (methodology, timings, effort) etc.

The survey effort was constrained at many ponds and this is detailed within Additional Sheet C - Survey Info - Tab C5. These constraints have been considered and a the precautionary principal applied when deriving the population size class assigned to each metapopulation within the Additional Sheet C - Detailed Metapopulation Description.

C - Survey summary

- Justify why constrained survey data is considered to accurately represent the size and distribution of the GCN population(s) present

An assessment of the accuracy of the survey information for each pond can be found in Additional Sheet C - Survey Info - Tab C5

[Next section](#)

SLR GCN MS - Additional Sheet C - Survey Info Continued

C3.3 Habitat description: waterbodies

C3.3i continued - all ponds

Pond ref	Description
P001	Dry pond located south of the site boundary.
NB: P002 to P004	does not exist on this scheme.
P005	Dry pond located south of the site boundary.
NB: P006 to P009	does not exist on this scheme
P010	Garden pond located east of the site boundary
P011	Woodland pond located east of the site boundary
NB: P012 to P030	does not exist on this scheme
P031	Large farm pond with scrubby edges, heavily shaded and no aquatic vegetation, located north of the site boundary.
P032	Very shallow field depression south of the site boundary.
P033	Farm pond located south of the site boundary
P034	Pond located south of the site boundary
P035	Woodland pond east of the site boundary.
P036	Large pond with bulrush around the pond edges. No aquatic vegetation and partly shaded by large trees, within the site boundary.
P037	Pond located south of the site boundary.
P038	Leaf litter choked shallow pond shaded by numerous trees on the bank, south of the site boundary.
P039	Woodland pond located south of the site boundary.
P040	Woodland pond located south of the site boundary.
P041	Woodland shallow pond choked with duckweed and partly shaded by trees on the pond edges.
P042	Woodland depression with a very shallow water level and choked with leaf litter.
P043	Farm pond located north of the site boundary.
P044	Woodland pond located south of the site boundary.
P045	Woodland pond located south of the site boundary.
P046	Woodland depression with a very shallow water level and choked with leaf litter.
P047	Large deep lake with floating pondweed and other aquatic vegetation. The banks are covered in large trees and mature scrub.
P048	Parkland pond located south of the site boundary.
P049	Farm pond located south of the site boundary.
P050	Defunct pond located south of the site boundary.

P051	Woodland pond located south of the site boundary.
P052	Woodland pond located south of the site boundary.
P053	Woodland depression with a shallow water level and choked with leaf litter.
NB: P054 to P056	does not exist on this scheme
P057	Woodland pond located south of the site boundary.
P058	Woodland pond within the site boundary.
P059	Woodland pond located east of the site boundary.
P060	Very shallow field depression located east of the site boundary.
P061	Farm pond located north of the site boundary.
P062	Woodland pond located north of the site boundary.
P063	Dry pond located north of the site boundary.
P064	Small pond dominated by bulrush and duckweed located north of the site boundary.
P065	Pond located north of the site boundary.
P066	Farm pond located west of the site boundary.
P067	Woodland pond located north of the site boundary.
P068	Farm pond located north of the site boundary.
P069	Pond located north of the site boundary.
P070	Pond located north of the site boundary.
NB: P071 to P074	does not exist on this scheme
P075	Pond located north of the site boundary.
NB: P076 to P078	does not exist on this scheme
P079	Farm pond located south of the site boundary.
P080	Dry pond located south of the site boundary.
P081	Shallow pond with recently cleared banks void of vegetation, located south of the site boundary.
P082	Woodland pond located north of the site boundary.
NB: P083 to P095	does not exist on this scheme
P096	Pond not extant located east of the site boundary.
NB: P097 to P102	does not exist on this scheme
P103	Farm pond located west of the site boundary.
P104	Pond located north of the site boundary.
P105	Farm pond located south of the site boundary.
NB: P106	does not exist on this scheme
P107	Shallow pond heavily shaded by the surrounding woodland, located north of the site boundary.
P108	A circular ditch where some parts are dry and others filled with shallow water, located south of the site boundary.

P109	Pond with 50% aquatic vegetation and surrounded by bulrush and common reed, located north of the site boundary.
NB: P110 - P113 does not exist on this scheme	
P114	Pond located north of the site boundary.
P115	Deep pond with no aquatic vegetation surrounded by bramble scrub and semi-mature trees, located north of the site boundary.
P116	Woodland pond located west of the site boundary.
P117	Woodland pond located west of the site boundary.
P118	Farm pond located north of the site boundary.
P119	Farm pond located within the site boundary.
P120	Farm pond located within the site boundary.
P121	Shallow pond choked with duckweed and filamentous algae, located south of the site boundary.
P122	Swimming pool located to the south of the site boundary.
P123	Garden pond located south of the site boundary.
P124	Farm pond located south of the site boundary.
P125	Defunct pond located adjacent to site boundary.
P126	Garden pond created in 2016, located north of the site boundary.
P127	Defunct pond located north of the site boundary.
P128	Defunct pond located north of the site boundary.
P129	Defunct pond located south of the site boundary.
P130	Garden pond located south of the site boundary.
P131	Shallow farm pond heavily shaded by scrub, located within the site boundary.
P132	Pond located north of the site boundary.
P133	Defunct pond located south of the site boundary. Completely dry, ground still silty and only colonised with nettles, no aquatic plants, bridge over
P134	Farm pond located north of the site boundary.
P135	Woodland pond located south of the site boundary.
P136	Woodland pond located south of the site boundary.
P137	Ditch located south of the site boundary.
P138	Pond not present at the time of survey, located south of the site boundary.
P139	Dry pond located south of the site boundary.
P140	Pond with aquatic vegetation and surrounded by scrub and tall ruderals, located south of the site boundary.
P141	Pond dry at the time of survey, located south of the site boundary.
P142	Pond located west of the site boundary.
P143	Woodland pond located west of the site boundary.
P144	Pond located south of the site boundary.
P145	Woodland pond located east of the site boundary.

P146	Farm pond located west of the site boundary.
P147	Woodland pond located west of the site boundary.
P148	Woodland pond located west of the site boundary.
P149	Defunct pond located west of the site boundary.
P150	Pond located south of the site boundary.
P151	Deep lake covered in patches of filamentous algae, located west of the site boundary.
P152	Defunct woodland pond located east of the site boundary.
P153	Woodland pond located east of the site boundary.
NB: P154 to P157 does not exist on this scheme	
P158	Defunct pond located south of the site boundary. Completely dry pond with no sign of marginal vegetation except nettles.
NB: P159 does not exist on this scheme	
P160	Very small pond within a leaf litter filled woodland depression, located north of the site boundary.
NB: P161 and P162 does not exist on this scheme	
P163	Small pond with shallow water level, next to larger pond in strip of woodland, located south of the site boundary.
P164	Small pond surrounded by horsetail and bulrush. Within a largely arable landscape. Located within site boundary.
P165	On site pond recorded to be dry at the time of survey.
P166	Farm pond located south of the site boundary. Triangular shaped pond, floating dead vegetation, heavily shaded in summer.
P167	Woodland pond located south of the site boundary.
P168	Dry Woodland pond located south of the site boundary.
P169	Defunct pond located south of the site boundary.
P170	Pond located north of the site boundary.
P171	Garden pond located north of the site boundary.
P172	Garden pond located north of the site boundary.
NB: P173 to P209 does not exist on this scheme	
P210	Woodland pond located south of the site boundary.
P211	Pond located south of the site boundary.
P212	Pond located west of the site boundary.
P213	Pond located west of the site boundary.
P214	Garden pond located west of the site boundary.
P215	Pond located north of the site boundary.
P216	Dry pond located north of the site boundary.
NB: P217 to P221 does not exist on this scheme	
P222	Pond located north of the site boundary.
P224	Defunct pond located north of the site boundary.

C3.3.ii Continued - distance from development site boundary and other ponds

Pond ref	Distance (m)	Surveyed or not?	If selected 'No- other reason' explain below
P001	270.0	No - other reason	Evidence of pond at time of survey but not holding water during any of the survey visits. Likely to hold water in wetter years.
P005	320	No - other reason	Evidence of pond at time of survey but not holding water during any of the survey visits. Likely to hold water in wetter years.
P010	420	Yes	
P011	495	Yes	
P031	40	Yes	
P032	240	Yes	
P033	265	Yes	
P034	135	No - access permission denied	
P035	20	Yes	
P036	0	Yes	
P037	226	No - access permission denied	
P038	122	Yes	
P039	80	Yes	
P040	20	Yes	
P041	0	Yes	
P042	60	Yes	
P043	150	Yes	
P044	84	Yes	
P045	0	Yes	
P046	0	Yes	
P047	254	Yes	
P048	350	Yes	
P049	395	Yes	
P050	417	No - other reason	No evidence of pond/pond filled in at time of survey.
P051	35	Yes	
P052	355	Yes	
P053	395	Yes	
P057	420	Yes	
P058	5	Yes	
P059	240	Yes	
P060	143	Yes	
P061	316	Yes	
P062	307	Yes	
P063	420	No - other reason	Evidence of pond at time of survey but not holding water during any of the survey visits. Likely to hold water in wetter years.
P064	260	Yes	
P065	155	No - access permission denied	
P066	46	Yes	
P067	158	Yes	
P068	365	Yes	
P069	345	No - access permission denied	
P070	418	No - access permission denied	
P075	488	No - access permission denied	
P079	395	Yes	

P080	231	No - other reason	Evidence of pond at time of survey but not holding water during any of the survey visits. Likely to hold water in wetter years.
P081	119	Yes	
P082	62	Yes	
P096	350	No - other reason	No evidence of pond/pond filled in at time of survey.
P103	450	Yes	
P104	75	No - access permission denied	
P105	500	Yes	
P107	260	Yes	
P108	0	Yes	
P109	265	Yes	
P114	392	No - access permission denied	
P115	383	Yes	
P116	193	Yes	
P117	327	Yes	
P118	374	Yes	
P119	0	Yes	
P120	0	Yes	
P121	150	Yes	
P122	400	No - completely unsuitable for Great Crested Newts	Swimming pool
P123	405	Yes	
P124	269	Yes	
P125	0	No - other reason	No evidence of pond/pond filled in at time of survey.
P126	326	Yes	
P127	20	No - other reason	No evidence of pond/pond filled in at time of survey.
P128	27	No - other reason	No evidence of pond/pond filled in at time of survey.
P129	365	No - other reason	No evidence of pond/pond filled in at time of survey.
P130	50	Yes	
P131	0	Yes	
P132	115	No - access permission denied	
P133	450	No - other reason	No evidence of pond/pond filled in at time of survey.
P134	470	Yes	
P135	75	Yes	
P136	378	Yes	
P137	403	Yes	
P138	293	No - other reason	No evidence of pond/pond filled in at time of survey.
P139	365	No - other reason	Evidence of pond at time of survey but not holding water during any of the survey visits. Likely to hold water in wetter years.
P140	337	Yes	
P141	288	No - other reason	No evidence of pond/pond filled in at time of survey.
P142	261	No - access permission denied	
P143	134	Yes	
P144	10	No - access permission denied	
P145	60	Yes	
P146	287	No - access permission denied	
P147	426	No - access permission denied	
P148	376	Yes	
P149	65	No - other reason	No evidence of pond/pond filled in at time of survey.
P150	388	No - access permission denied	
P151	128	Yes	

P152	5	No - other reason	No evidence of pond/pond filled in at time of survey.
P153	166	Yes	
P158	500	No - other reason	No evidence of pond/pond filled in at time of survey.
P160	287	Yes	
P163	116	Yes	
P164	0	Yes	
P165	0	No - other reason	Evidence of pond at time of survey but not holding water during any of the survey visits. Likely to hold water in wetter years.
P166	70	Yes	
P167	138	Yes	
P168	180	No - other reason	Evidence of pond at time of survey but not holding water during any of the survey visits. Likely to hold water in wetter years.
P169	250	No - other reason	No evidence of pond/pond filled in at time of survey.
P170	460	No - access permission denied	
P171	438	Yes	
P172	334	Yes	
P210	30	Yes	
P211	415	Yes	
P212	150	No - access permission denied	
P213	10	No - access permission denied	
P214	230	Yes	
P215	352	Yes	
P216	370	No - other reason	Evidence of pond at time of survey but not holding water during any of the survey visits. Likely to hold water in wetter years.
P222	500	No - access permission denied	
P224	100	No - other reason	No evidence of pond/pond filled in at time of survey.

C3.5 Waterbodies: quantitative assessment - Continued

NB: Red SI values have been estimated based on OS mapping / aerials and professional judgement

Date HSI assessment undertaken	29/06/2020	29/06/2020	18/04/2021	18/04/2021	16/04/2021	26/04/2019	02/06/2021	N/A	16/04/2021
Pond ref	P001	P005	P010	P011	P031	P032	P033	P034	P035
SI1 - Location	1	1	1	1	1	1	1	1	1
SI2 - Pond area	0.7	0.3	0.91	1	0.3	0.05	0.7	0.5	0.7
SI3 - Pond drying	0.1	0.1	1	0.9	1	0.5	0.5	0.2	0.5
SI4 - Water quality			0.67	0.67	0.67	0.33	0.33	0.67	0.67
SI5 - Shade	1	1	1	1	1	0.9	0.6	0.2	1
SI6 - Fowl	1	1	0.01	0.01	0.67	1	1	0.67	0.67
SI7 - Fish	1	1	1	0.67	1	0.67	1	0.67	1
SI8 - Ponds	1	1	1	1	1	1	1	1	1
SI9 - Terr'l habitat	0.33	0.33	0.67	1	0.67	0.67	0.33	0.67	0.67
SI10 - Macrophytes			0.5	0.8	0.3	0.45	0.4	0.67	0.35
HSI	0.62	0.56	0.54	0.53	0.78	0.67	0.48	0.61	0.72
Constraints	Dry at time of survey								
	Estimated: Access denied								

Date HSI assessment undertaken	22/04/2021	17/04/2019	05/05/2021	17/04/2019	05/05/2021	15/04/2021	15/04/2021	05/05/2021
Pond ref	P036	P037	P038	P040	P041	P042	P043	P044
SI1 - Location	1	1	1	1	1	1	1	1
SI2 - Pond area	0.2	0.7	0.5	0.3	0.4	0.2	0.3	0.3
SI3 - Pond drying	1	1	0.9	1	1	0.9	0.5	1
SI4 - Water quality	0.67	0.67	0.67	0.33	0.33	0.33	0.33	0.67
SI5 - Shade	1	0.2	0.7	0.5	1	0.4	0.4	0.4
SI6 - Fowl	1	0.67	1	0.67	1	1	1	0.67
SI7 - Fish	1	0.67	1	1	1	1	1	1
SI8 - Ponds	1	1	1	1	1	1	1	1
SI9 - Terr'l habitat	0.67	0.67	0.33	0.67	0.33	0.33	0.33	0.67
SI10 - Macrophytes	0.6	0.67	0.3	0.3	0.3	0.35	0.35	0.4
HSI	0.75	0.64	0.68	0.61	0.65	0.55	0.54	0.65

		Estimated: Access denied									
Constraints											
Date HSI assessment underf	05/05/2021	17/04/2019	22/04/2021	29/04/2021	16/04/2021	16/04/2021	16/04/2021	16/04/2021	16/04/2021	17/04/2019	
Pond ref	P045	P046	P047	P048	P049	P050	P051	P052	P053		
S11 - Location	1	1	1	1	1		1	1	1	1	
S12 - Pond area	0.3	0.4	0.95	0.1	1		0.5	0.3	0.4		
S13 - Pond drying	1	0.1	0.9	1	0.9		1	0.5	0.9		
S14 - Water quality	0.67	0.33	0.33	0.67	1		1	0.33	0.67		
S15 - Shade	1	0.3	1	1	1		0.8	1	1		
S16 - Fowl	0.01	1	0.67	1	1		1	1	1		
S17 - Fish	1	1	0.01	1	1		1	1	1		
S18 - Ponds	1	1	1	1	1		1	1	1		
S19 - Terr'l habitat	0.67	0.67	0.67	0.33	0.33		1	1	0.67		
S110 - Macrophytes	0.35	0.55	0.35	0.4	0.6		0.3	0.4	0.55		
HSI	0.46	0.52	0.46	0.62	0.84		0.81	0.68	0.79		
Constraints		Defunct									

		Estimated: Access denied									
Constraints											
Date HSI assessment underf	16/04/2021	15/04/2021	16/04/2021	15/04/2019	16/04/2021	03/06/2021	15/04/2021	26/06/2019	N/A		
Pond ref	P057	P058	P059	P060	P061	P062	P063	P064	P065		
S11 - Location	1	1	1	1	1	1	1	1	1		
S12 - Pond area	1	0.6	0.7	0.2	0.2	0.6	0.5	0.3	1		
S13 - Pond drying	1	0.1	0.1	0.1	1	0.5	0.1	0.67	1		
S14 - Water quality	0.67	0.33	0.67	1	0.67	0.67	0.01	1			
S15 - Shade	1	0.8	0.4	1	0.3	0.4	1	1	0.8		
S16 - Fowl	0.67	1	1	1	1	1	1	0.67	0.67		
S17 - Fish	1	1	1	1	1	1	1	1	0.67		
S18 - Ponds	1	1	1	1	1	1	1	1	1		
S19 - Terr'l habitat	1	0.67	0.67	1	0.01	1	0.33	0.67	0.67		
S110 - Macrophytes	0.3	0.3	0.35	0.8	0.3	0.9	0.3	1			
HSI	0.82	0.56	0.58	0.66	0.41	0.77	0.37	0.79	0.84		
Constraints		Dry at time of survey Access denied									

Date HSI assessment undertaken	29/04/2021	29/04/2021	15/04/2021	N/A	29/04/2021	19/03/2019		
Pond ref	P066	P067	P068	P069	P070	P080	P081	
S11 - Location	1	1	1	1		1	1	
S12 - Pond area	0.5	0.6	1	0.3		0.2	0.6	
S13 - Pond drying	0.9	0.9	0.5	1		0.1	0.9	
S14 - Water quality	0.67	0.33	0.67				1	
S15 - Shade	1	0.7	1				1	
S16 - Fowl	0.67	0.67	0.67	0.67		0.67	1	
S17 - Fish	1	1	0.67	0.67		0.67	1	
S18 - Ponds	1	1	1	1		1	1	
S19 - Terr'l habitat	0.67	1	1	0.67		0.67	1	
S110 - Macrophytes	0.55	0.35	0.4			0.6	0.3	
HSI	0.77	0.70	0.75	0.71		0.86	0.48	0.83
Constraints	Estimated: access denied						Dry at time of survey	

Date HSI assessment undertaken	05/05/2021	15/04/2021	02/06/2021	17/04/2019	17/04/2019	27/06/2019			
Pond ref	P082	P096	P103	P104	P105	P107	P108	P109	P114
S11 - Location	1		1	1	1	1	1	1	
S12 - Pond area	0.4		0.4	0.2	0.05	0.2	0.1	1	
S13 - Pond drying	1		0.9	0.1	0.1	0.5	0.1	0.9	
S14 - Water quality	0.67		0.33	0.67	0.67	0.33	0.33	0.67	
S15 - Shade	0.5		0.6	0.2	0.4	0.4	0.7	0.67	
S16 - Fowl	0.67		1	0.67	1	1	1	0.67	
S17 - Fish	1		1	0.67	1	1	1	0.67	
S18 - Ponds	1		1	1	1	1	1	1	
S19 - Terr'l habitat	0.67		0.33	0.67	0.33	0.33	0.33	1	
S110 - Macrophytes	0.4		1	0.35	0.35	0.35	0.3	1	
HSI	0.69		0.69	0.53	0.42	0.52	0.43	0.84	
Constraints	Defunct			Access denied		Access denied			

SI3 - Pond drying	0.9		1		0.1	1	1	1	0.1	0.1
SI4 - Water quality	1	0.33	0.33		0.33	0.67	0.67	0.67	0.01	0.33
SI5 - Shade	0.3	1	1		0.2	1	1	1	0.3	0.3
SI6 - Fowl	0.67	0.67	0.67		1	1	1	0.67	1	1
SI7 - Fish	0.33	1	1		1	1	1	0.67	1	1
SI8 - Ponds	1	1	1		1	1	1	1	1	1
SI9 - Terr'l habitat	0.67	0.67	0.67		0.33	1	0.67	0.67	0.67	0.33
SI10 - Macrophytes	0.35	0.35	0.35		0.35	0.35	0.3	0.3	0.3	0.3
HSI	0.64	0.59	0.59		0.39	0.69	0.64	0.30	0.37	0.37
Constraints										

Date HSI assessment undertaken	22/04/2021	29/04/2021	03/06/2021	16/04/2021	17/04/2019	N/A			
Pond ref	P167	P168	P169	P170	P171	P172	P210	P211	P212
SI1 - Location	1	1		1	1	1	1	1	1
SI2 - Pond area	0.05	0.05		0.5	1	0.6	0.2	0.4	0.2
SI3 - Pond drying	0.1	0.1		0.1	0.9	0.9	0.5	1	
SI4 - Water quality	0.33	0.33		0.67	0.67	1	0.33	0.33	
SI5 - Shade	0.2	0.2		1	1	1	0.8	0.2	0.6
SI6 - Fowl	1	1		0.67	1	0.67	1	1	0.67
SI7 - Fish	1	1		0.67	1	1	1	1	0.67
SI8 - Ponds	1	1		1	1	1	1	1	1
SI9 - Terr'l habitat	0.67	0.67		0.67	1	0.67	0.67	1	1
SI10 - Macrophytes	0.3	0.3		0.9	0.9	1	0.3	0.35	
HSI	0.38	0.38		0.76	0.76	0.87	0.59	0.63	0.66
Constraints									

Date HSI assessment undertaken	N/A	15/04/2021	15/04/2021	15/04/2021	N/A	
Pond ref	P213	P214	P215	P216	P222	P224
SI1 - Location	1	1	1	1	1	
SI2 - Pond area	0.4	1	0.1	0.1	0.8	
SI3 - Pond drying		0.1	0.1	0.1		
SI4 - Water quality		0.67	0.67	0.1		

Pond ref	GCN Surveyor / Accredited Agent
P001	N/A - pond dry at the time of survey
P005	N/A - pond dry at the time of survey
P010	[REDACTED]
P011	[REDACTED]
P031	[REDACTED]
P032	[REDACTED]
P033	[REDACTED]
P034	N/A - access permission denied
P035	[REDACTED]
P036	[REDACTED]
P037	N/A - access permission denied
P038	[REDACTED]
P039	[REDACTED]
P040	[REDACTED]
P041	[REDACTED]
P042	[REDACTED]
P043	[REDACTED]
P044	[REDACTED]
P045	[REDACTED]
P046	[REDACTED]
P047	[REDACTED]
P048	[REDACTED]
P049	[REDACTED]
P050	[REDACTED]
P051	[REDACTED]
P052	[REDACTED]
P053	[REDACTED]
P057	[REDACTED]
P058	[REDACTED]
P059	[REDACTED]
P060	[REDACTED]
P061	[REDACTED]
P062	[REDACTED]
P063	[REDACTED]
P064	[REDACTED]
P065	N/A - access permission denied
P066	[REDACTED]
P067	[REDACTED]
P068	[REDACTED]
P069	N/A - access permission denied
P070	N/A - access permission denied
P075	N/A - access permission denied
P079	[REDACTED]
P080	N/A - pond dry at the time of survey
P081	[REDACTED]
P082	[REDACTED]
P096	N/A - pond not extant
P103	[REDACTED]
P104	N/A - access permission denied

P105	[REDACTED]
P107	[REDACTED]
P108	[REDACTED]
P109	[REDACTED]
P114	N/A - access permission denied
P115	[REDACTED]
P116	[REDACTED]
P117	[REDACTED]
P118	[REDACTED]
P119	[REDACTED]
P120	[REDACTED]
P121	[REDACTED]
P122	N/A - completely unsuitable for great crested newt
P123	[REDACTED]
P124	[REDACTED]
P125	N/A - pond not extant
P126	[REDACTED]
P127	N/A - pond not extant
P128	N/A - pond not extant
P129	[REDACTED]
P130	[REDACTED]
P131	[REDACTED]
P132	N/A - access permission denied
P133	[REDACTED]
P134	[REDACTED]
P135	[REDACTED]
P136	[REDACTED]
P137	[REDACTED]
P138	N/A - pond not extant
P139	N/A - pond dry at the time of survey
P140	[REDACTED]
P141	N/A - pond not extant
P142	N/A - access permission denied
P143	[REDACTED]
P144	N/A - access permission denied
P145	[REDACTED]
P146	N/A - access permission denied
P147	N/A - access permission denied
P148	[REDACTED]
P149	N/A - pond not extant
P150	N/A - access permission denied
P151	[REDACTED]
P152	[REDACTED]
P153	[REDACTED]
P158	[REDACTED]
P160	[REDACTED]
P163	[REDACTED]
P164	[REDACTED]
P165	[REDACTED]
P166	[REDACTED]

P167	
P168	
P169	
P170	N/A - access permission denied
P171	
P172	
P210	
P211	
P212	N/A - access permission denied
P213	N/A - access permission denied
P214	
P215	
P216	
P222	N/A - scoped out
P224	N/A - pond not extant

C4.2 Aquatic surveys for presence / absence using eDNA.

C. Complete the following table

Pond ref	Date eDNA sample taken	Result (presence or absence)
P001	N/A	N/A (dry pond)
P005	N/A	N/A (dry pond)
P010	18/04/2021	Absent
P011	18/04/2021	Absent
P031	16/04/2021	Assumed present - eDNA constraints
P032	26/04/2019	Present
P033	02/06/2021	Absent
P034	N/A	N/A (access permission denied)
P035	16/04/2021	Present
P036	22/04/2021	Present
P037	N/A	N/A (access permission denied)
P038	17/04/2019	Absent
P039	05/05/2021	Absent
P040	05/05/2021	Assumed present - eDNA constraints
P041	17/04/2019	Assumed Present (Inconclusive eDNA but within the red line boundary so worst case scenario assumed)
P042	15/04/2021	Assumed present - eDNA constraints
P043	15/04/2021	Present
P044	05/05/2021	Absent
P045	05/05/2021	Present
P046	17/04/2019	Absent
P047	22/04/2021	Absent
P048	29/04/2021	Present
P049	16/04/2021	Present
P050	16/04/2021	N/A (pond not extant)
P051	16/04/2021	Present
P052	16/04/2021	Present
P053	17/04/2019	Present

P057		16/04/2021	Present
P058		15/04/2021	Present
P059		16/04/2021	Absent
P060		15/04/2019	Absent
P061		16/04/2021	Present
P062		03/06/2021	Present
P063		15/04/2021	N/A (dry pond)
P064		26/06/2019	Present
P065	N/A		N/A (access permission denied)
P066		29/04/2021	N/A (GCN eggs found)
P067		29/04/2021	N/A (GCN eggs found)
P068		15/04/2021	Assumed present - eDNA constraints
P069	N/A		N/A (access permission denied)
P070	N/A		N/A (access permission denied)
P075	N/A		N/A (access permission denied)
P079		29/04/2021	Present
P080	N/A		N/A (dry pond)
P081		19/03/2019	Present
P082		05/05/2021	Present
P096	N/A		N/A (pond not extant)
P103		15/04/2021	Absent
P104	N/A		N/A (access permission denied)
P105		02/06/2021	Absent
P107		17/04/2019	Present
P108		17/04/2019	Absent
P109		27/06/2019	Absent
P114	N/A		N/A (access permission denied)
P115		30/04/2019	Absent
P116		29/04/2021	Absent
P117		29/04/2021	Absent
P118		22/04/2021	Absent
P119		27/06/2019	Present
P120		22/04/2021	Present
P121		22/04/2021	Present
P122	N/A		N/A (completely unsuitable for great crested newt)
P123		29/04/2021	Present
P124		22/06/2021	Present
P125	N/A		N/A (pond not extant)
P126		15/04/2021	Present
P127	N/A		N/A (pond not extant)
P128	N/A		N/A (pond not extant)
P129		16/04/2021	N/A (pond not extant)
P130		16/04/2021	Present
P131		16/04/2021	Absent
P132	N/A		N/A (access permission denied)
P133		16/04/2021	N/A (pond not extant)
P134		16/04/2021	Absent
P135		16/04/2021	Present
P136		16/04/2021	Present
P137		16/04/2021	Present

P138		16/04/2021	N/A (pond not extant)
P139	N/A		N/A (dry pond)
P140		17/04/2019	Present
P141	N/A		N/A (pond not extant)
P142	N/A		N/A (access permission denied)
P143		15/04/2021	Present
P144	N/A		N/A (access permission denied)
P145		15/04/2021	Assumed present - eDNA constraints
P146	N/A		N/A (access permission denied)
P147	N/A		N/A (access permission denied)
P148		15/04/2021	Assumed present - eDNA constraints
P149		16/04/2021	N/A (pond not extant)
P150	N/A		N/A (access permission denied)
P151		02/05/2019	Absent
P152		18/04/2021	N/A (pond not extant)
P153		18/04/2021	Absent
P158		29/04/2021	N/A (pond not extant)
P160		16/04/2019	Absent
P163		17/04/2019	Present
P164		22/04/2021	Present
P165		22/04/2021	N/A (dry pond)
P166		22/04/2021	Present
P167		22/04/2021	Present
P168		29/04/2021	N/A (dry pond)
P169		29/04/2021	N/A (pond not extant)
P170	N/A		N/A (access permission denied)
P171		03/06/2021	Assumed present - eDNA constraints
P172		03/06/2021	Present
P210		16/04/2021	Present
P211		17/04/2019	Present
P212	N/A		N/A (access permission denied)
P213	N/A		N/A (access permission denied)
P214		15/04/2021	Absent
P215		15/04/2021	Present
P216		15/04/2021	N/A (dry pond)
P222	N/A		N/A (scoped out)
P224		29/04/2021	N/A (pond not extant)

Licence Reference
N/A
N/A
2020-46807-CLS-CLS
2020-46807-CLS-CLS
2020-46807-CLS-CLS
2017-27800-CLS-CLS GCN
2020-47295-CLS-CLS
N/A
2020-46807-CLS-CLS
2018-33429-CLS-CLS
N/A
2017-27800-CLS-CLS GCN
2020-48343-CLS-CLS
2020-48343-CLS-CLS
2017-27800-CLS-CLS GCN
2015-16722-CLS-CLS
2015-16722-CLS-CLS
2020-48343-CLS-CLS
2020-48343-CLS-CLS
2017-27800-CLS-CLS GCN
2020-47295-CLS-CLS
2015-11399-CLS-CLS
2015-16722-CLS-CLS
2015-16722-CLS-CLS
2020-46807-CLS-CLS
2020-46807-CLS-CLS
2017-27800-CLS-CLS GCN
2015-18927-CLS-CLS
2020-46807-CLS-CLS
2020-46807-CLS-CLS
2017-27800-CLS-CLS GCN
2015-16722-CLS-CLS
2020-48343-CLS-CLS
2015-16722-CLS-CLS
2017-27800-CLS-CLS GCN
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2020-48343-CLS-CLS
2020-48343-CLS-CLS
2015-16722-CLS-CLS
N/A
N/A
N/A
2016-22714-CLS-CLS
N/A
2017-27800-CLS-CLS GCN
2020-48343-CLS-CLS
N/A
2015-16722-CLS-CLS
N/A

2020-47295-CLS-CLS
2017-27800-CLS-CLS GCN
2017-27800-CLS-CLS GCN
2017-27800-CLS-CLS GCN
N/A
2017-27800-CLS-CLS GCN
2020-48343-CLS-CLS
2020-48343-CLS-CLS
2018-33429-CLS-CLS
2020-47295-CLS-CLS
2020-47295-CLS-CLS
2020-47295-CLS-CLS
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2015-11399-CLS-CLS
2020-47295-CLS-CLS
N/A
2015-16722-CLS-CLS
N/A
N/A
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N/A
2020-46807-CLS-CLS
2015-16722-CLS-CLS
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2020-46807-CLS-CLS
2020-46807-CLS-CLS
2020-46807-CLS-CLS
N/A
N/A
2017-27800-CLS-CLS GCN
N/A
N/A
2020-46807-CLS-CLS
N/A
2020-46807-CLS-CLS
N/A
N/A
2020-46807-CLS-CLS
N/A
N/A
2017-27800-CLS-CLS GCN
2020-46807-CLS-CLS
2020-46807-CLS-CLS
2016-22714-CLS-CLS
2017-27800-CLS-CLS GCN
2017-27800-CLS-CLS GCN
2018-33429-CLS-CLS
2018-33429-CLS-CLS
2020-47295-CLS-CLS

2020-47295-CLS-CLS
2015-11399-CLS-CLS
2016-22714-CLS-CLS
N/A
2020-48343-CLS-CLS
2020-48343-CLS-CLS
2020-46807-CLS-CLS
2017-27800-CLS-CLS GCN
N/A
N/A
2020-46807-CLS-CLS
2015-16722-CLS-CLS
2015-16722-CLS-CLS
N/A
N/A

C5 Interpretation and evaluation

Summary of presence, peak count, population size class and habitat quality

Pond ref	Gt.	Peak adult	Pop size	HSI	Low detect-ability	Peak count	Eggs
P032	Yes	0	N/A	0.67	Caution	N/A	Yes
P035	Yes	0	N/A	0.72	Caution	N/A	No
P036	Yes	3	Small	0.75	Caution	5	Yes
P041	Yes	0	N/A	0.65	Caution	N/A	No
P043	Yes	0	N/A	0.54	Caution	N/A	No
P045	Yes	0	N/A	0.46		N/A	No
P048	Yes	58	Medium	0.62	Caution	4	Yes
P049	Yes	17	Medium	0.84	Caution	2	Yes
P051	Yes	5	Small	0.81	Caution	3	No
P052	Yes	0	N/A	0.68	Caution	N/A	Yes
P053	Yes	0	N/A	0.79	Caution	N/A	No
P057	Yes	1	Small	0.82	Caution	1	Yes
P058	Yes	1	Small	0.56		2	No
P061	Yes	1	Small	0.41	Caution	4	Yes
P064	Yes	16	Medium	0.79	Caution	3	Yes
P066	Yes	37	Medium	0.77	Caution	2	Yes
P067	Yes	9	Small	0.70	Caution	3	Yes
P079	Yes	29	Medium	0.86	Caution	1	Yes
P081	Yes	10	Small	0.83	Caution	2	No
P082	Yes	0	N/A	0.69	Caution	N/A	No
P107	Yes	1	Small	0.57	Caution	4	Yes
P119	Yes	0	N/A	0.54	Caution	N/A	No
P120	Yes	2	Small	0.51	Caution	6	Yes
P121	Yes	3	Small	0.71	Caution	1	Yes
P123	Yes	14	Medium	0.66	Caution	1	Yes
P126	Yes	40	Medium	0.48	Caution	2	Yes
P130	Yes	3	Small	0.70	Caution	6	No
P135	Yes	0	N/A	0.53	Caution	N/A	Yes
P136	Yes	0	N/A	0.69	Caution	N/A	No
P137	Yes	5	Small	0.83	Caution	1	Yes
P140	Yes	3	Small	0.76	Caution	6	Yes
P143	Yes	5	Small	0.63	Caution	2	Yes
P163	Yes	1	Small	0.69	Caution	3	No
P164	Yes	2	Small	0.64	Caution	2	Yes
P166	Yes	3	Small	0.37	Caution	3	No
P167	Yes	0	N/A	0.38		N/A	No
P210	Yes	1	Small	0.59	Caution	1	No
P211	Yes	0	N/A	0.63	Caution	N/A	No
P215	Yes	3	Small	0.61	Caution	2	Yes

Additional Sheet C - Survey Information

Survey Constraints

Below outlines any survey constraints at all ponds within the survey boundary and how these constraints affect the data. Any assumptions or changes to the outcome of these surveys have then been outlined.

Pond Ref	Survey Type	Constraint	How could data be affected	Rationale	Outcome	GCN Presence	Population size class assessment (where possible) following constraints assessment
P001	No Survey	Dry	Dry ponds are considered largely unsuitable for breeding GCN	Dry at time of survey visit undertaken during the survey season (March-June)	Data sufficient and accurate	Dry	N/A
P005	No Survey	Dry	Dry ponds are considered largely unsuitable for breeding GCN	Dry at time of survey visit undertaken during the survey season (March-June)	Data sufficient and accurate	Dry	N/A
P010	eDNA only	70% of pond sampled	Potential to not record GCN presence.	eDNA negative however sampling was constrained. HSI was "Below Average". Not near any known metapopulations (ponds in the area absent/unsuitable/dry/scoped out/unknown). Result considered to be correct.	GCN assumed absent	GCN assumed absent - eDNA constraints	N/A
P011	eDNA only	20% of pond sampled, medium sediment in sample	Potential to not record GCN presence.	eDNA negative however sampling was constrained. HSI was "Poor". Not near any known metapopulations (ponds in the area absent/unsuitable/dry/scoped out/unknown).	GCN assumed absent	GCN assumed absent - eDNA constraints	N/A
P031	eDNA only	10% of pond sampled. No egg search undertaken due to no access to suitable vegetation.	Potential to not record GCN presence.	eDNA negative however sampling was constrained. Pond is 400m from P035 via hedgerows. GCN were recorded as present at P035. Although this is a potentially small population over 250m away, the HSI of P031 was "Good" so presence cannot be ruled out.	GCN assumed present, assumed small population	GCN assumed present - eDNA constraints	Assumed small
P032	eDNA and Conventional	Visit 3: pond drying, water level not high enough to allow more than 4 traps to be deployed. High veg cover. Visit 4: pond almost dry with only a small amount of water. Much of the water is inaccessible and there is dense Crassula growth around part of the pond posing biodiversity risk. Visit 5: pond was dry. Could only access 5-10% pond	Potential to under record GCN present within pond.	eDNA positive and GCN eggs found but no GCN recorded in the pond during conventional survey. However, pond HSI was "Average" and became largely unsuitable for GCN from visit 3 due to pond drying out.	Assumed "Small" population	GCN Present	Assumed small
P033	eDNA only	No Access	Potential to not record GCN presence.	eDNA negative however sampling was constrained. Pond is 350m from P035 (small population) however connecting habitat is sub optimal and HSI of P033 was "Poor".	GCN assumed absent	GCN assumed absent - eDNA constraints	N/A
P034	No Survey	No Access	Insufficient data to determine likely GCN absence or presence	No GCN present in ponds surveyed <250m (P033 and P039).	GCN assumed absent	GCN assumed absent - No access	N/A
P035	eDNA and Conventional	30% of pond sampled for eDNA. Visit 1: High turbidity Visits 2 to 6: only 10-20% of banks accessible due to dense scrub. Visit 3: Willow seeds and floating branches impede view of water surface.	Potential to under record GCN present within pond.	eDNA positive but no GCN recorded in the pond during conventional survey. However, pond HSI was "poor" and in proximity to waterbodies where eDNA surveys returned a negative response (although presence at P031 and P104 has been assumed).	Assumed "Small" population	GCN Present	Assumed small
P036	eDNA and Conventional	50% of pond sampled for eDNA 20% of bank surveyed due to dense vegetation, duckweed covering over 50% of pond surface. High turbidity on visit 4 and 6.	Potential to under record GCN present within pond.	Peak count of 3 GCN and a "Good" HSI score. If this peak count was extrapolated upwards then a peak count of 15 could be possible.	Assumed "Medium" population	GCN Present	Assumed medium

	No Survey	No Access	Insufficient data to determine likely GCN absence or presence		No GCN present in ponds surveyed <250m (P038 and P108). Pond is situated in arable landscape with limited favourable terrestrial habitat. eDNA returned a negative result for GCN	GCN assumed absent	GCN assumed absent - No access	N/A
P037	No Survey	No Access	Insufficient data to determine likely GCN absence or presence		No GCN present in ponds surveyed <250m (P038 and P108). Pond is situated in arable landscape with limited favourable terrestrial habitat. eDNA returned a negative result for GCN	GCN assumed absent	GCN assumed absent - No access	N/A
P038	eDNA only	None	None	Potential to not record GCN presence.	eDNA negative however sampling was constrained. The HSI for P039 was "Poor". Pond is 250m from P041 via good connecting habitat. GCN were recorded at P041 (small population). Pond is 100m from P040 ("Good" HSI) where GCN are assumed presence (see P040 row). However, due to the likely small populations within the area, availability of more favourable habitat (P040) and presence of "poor" habitat for GCN at P039 the result is considered correct	Data sufficient and accurate GCN assumed absent	GCN assumed absent - No access GCN assumed absent - eDNA constraints	N/A N/A
P039	eDNA only	30% of surface covered by duckweed. Only 40% of pond edge could be accessed due to dense bramble scrub	Potential to not record GCN presence.		eDNA negative however sampling was constrained. The HSI for P040 was "Good". Pond is 150m from P041 via connecting habitat. GCN were recorded at P041 (small population). Due to the proximity to a GCN pond and "Good" available habitat presence cannot be ruled out.	GCN assumed present, assumed small population	GCN assumed present - eDNA constraints	Assumed small
P040	eDNA only	Dense bramble scrub prevented approx 70% of access	Potential to not record GCN presence.		eDNA negative however sampling was constrained. The HSI for P040 was "Good". Pond is 150m from P041 via connecting habitat. GCN were recorded at P041 (small population). Due to the proximity to a GCN pond and "Good" available habitat presence cannot be ruled out.	GCN assumed present, assumed small population	GCN assumed present - eDNA constraints	Assumed small
P041	eDNA and Conventional	Visits 4 to 6 heavily constrained by algae, willow seeds / pollen and Duckweed (Lemna sp.). Visits 5 and 6: 95% of pond edge inaccessible due to dense scrub along banks.	Potential to under record GCN present within pond.	Potential to under record GCN presence.	eDNA positive but no GCN recorded in the pond during conventional surveys. Visits 1 - 3 surveys were unconstrained and visits 2 and 3 were undertaken during mid-April and mid-May so the constraints of visits 4-5 are not expected to influence results.	Assumed "Small" population	GCN Present	Assumed small
P042	eDNA only	50% of pond sampled	Potential to not record GCN presence.	Potential to not record GCN presence.	eDNA negative however sampling was constrained. The HSI for P042 was "Below Average". Pond is along a field boundary in between P041 (164m south-east) and P042 (180m north-east). GCN were recorded at P041 and P042 (small populations). Despite the "Below Average" available habitat the location of these ponds in between two GCN ponds suggests presence of GCN in P042 cannot be ruled out.	GCN assumed present, assumed small population	GCN assumed present - eDNA constraints	Assumed small
P043	eDNA and Conventional	70% of pond sampled for eDNA. Visits 3 to 6 heavily constrained by algae and floating branches / leaves. High turbidity Visits 4 to 6: 80% of pond edge inaccessible due to dense scrub along banks. High veg cover on survey 4	Potential to under record GCN present within pond.	Potential to under record GCN presence.	eDNA positive but no GCN recorded in the pond during conventional surveys. HSI score was "Below Average" and this pond is situated in a metapopulation which contains only small populations.	Assumed "Small" population	GCN Present	Assumed small
P044	eDNA only	Dense bramble scrub around pond edges prevented 90% of access.	Potential not to record GCN presence.	Potential not to record GCN presence.	eDNA negative however sampling was constrained. The HSI for P044 was "Average" however this pond is isolated within a large arable field and not connected to any other pond via suitable habitat therefore the result is considered correct.	GCN assumed absent	GCN assumed absent - eDNA constraints	N/A

P045	eDNA and Conventional	Dense bramble scrub prevented 70% of access. Torching constrained due to seeds / tree pollen covering 90% of pond (Visit 4). Only 4 visits undertaken as conventional surveys commenced later in the season.	Potential to under record GCN present within pond.	eDNA positive but no GCN recorded in the pond during conventional surveys. HSI score was "Poor" and this pond is in an arable landscape with limited connectivity to other ponds.	Assumed "Small" population	GCN Present	Assumed small
P046	eDNA only	None	None	eDNA returned a negative results for GCN	Data sufficient and accurate	GCN Absent	N/A
P047	eDNA only	None	None	eDNA returned a negative results for GCN	Data sufficient and accurate	GCN Absent	N/A
P048	eDNA and Conventional	Visit 1: Only torch survey undertaken. No traps set or netting survey because GCN were identified as present when surveyors passed this pond and shone a torch in it on 01/06/2021. Visits 5 and 6 not undertaken due to end in land access agreement.	Potential to under record GCN present within pond.	Peak count of 56 with GCN eggs found. Although 4 visits were undertaken the peak count occurred on the 10th of June which is late in the season so it is unlikely that visits 5 and 6 would result in a higher peak count. Survey coverage was also unconstrained.	Data sufficient and accurate	GCN Present	Medium
P049	eDNA and Conventional	90% of pond sampled for eDNA. Visit 1: aquatic vegetation around pond margins obscured view. Visits 4 and 5: 70% of bank inaccessible due to bulrush. Visit 5: Algae cover 90% of pond. Visits 5 and 6: no bottle-trapping as a dead water shrew found on visit 4.	Potential to under record GCN present within pond.	Peak count of 17 with HSI score "Excellent" and GCN eggs found. Peak count occurred on visit 2 (bottle trapping) and visit 3 (torching) when surveys were unconstrained. The peak count on visit 4 when 30% access was 12. If this was extrapolated upwards then a peak count of 40 could be possible.	Population class estimate accurate as pond unlikely to hold "Large" class estimate.	GCN Present	Medium
P050	No Survey	Defunct	N/A	Defunct ponds are considered unsuitable for breeding GCN	Data sufficient and accurate	Pond Not Extant	N/A
P051	eDNA and Conventional	10% of pond sampled for eDNA. Only 60% of the pond accessible for conventional survey. Visit 3: High turbidity	Potential to under record GCN present within pond.	Peak count of 5 with HSI score "Good". 60% of pond was accessible so if this count was extrapolated upwards then peak count of 9 could be possible.	Population class estimate accurate as pond unlikely to hold "Medium" class estimate.	GCN Present	Small
P052	eDNA and Conventional	70% of pond sampled for eDNA. Visits 2 to 4: the pond was too shallow to bottle trap. It filled up after heavy rain from visit 5. Visit 4: livestock prevented surveying.	Potential to under record GCN present within pond.	eDNA positive but no GCN recorded during conventional surveys. HSI score was "Average" and GCN eggs were found. Pond situated within metapopulation containing small GCN populations.	Assumed "Small" population	GCN Present	Assumed small
P053	eDNA and Conventional	Dense scrub covered 95% of the pond's bank. Very limited access on visits 1 to 3 and no access from visit 4. Bottle traps could not be set and torching was very constrained.	Potential to under record GCN present within pond.	eDNA positive but no GCN recorded during conventional surveys as heavily constrained. HSI score was "Good" but in close to proximity with ponds where only small populations were recorded.	Assumed "Small" population	GCN Present	Assumed small
P057	eDNA and Conventional	hedgerows and brambles restricted access. 50% of pond sampled for eDNA. Visit 1: Turbid water and difficult to access 70% of the pond. Visit 4: limited access due to dense vegetation. Only 5 visits were undertaken.	Potential to under record GCN present within pond.	Peak count of 1 and GCN eggs found. Peak count from visit 1 when 30% of pond was surveyed, if this was extrapolated upwards then a peak count of 4 is possible.	Assumed "Small" population	GCN Present	Assumed small
P058	eDNA and Conventional	60% of pond sampled for eDNA. No constraints to conventional survey	Sufficient bottle traps were deployed along shoreline to ensure data validity	Peak count of 1 with HSI score "Below Average" however no constraints to conventional survey.	Data sufficient and accurate	GCN Present	Small
P059	eDNA only	70% of pond sampled for eDNA	Potential not to record GCN presence.	eDNA negative however sampling was constrained. The HSI for P059 was "Below Average". The pond is 230m east of P058 (containing a small population) and there is no suitable connecting habitat. Therefore the result is considered correct.	GCN assumed absent	GCN assumed absent - eDNA constraints	N/A
P060	eDNA only	None	None	eDNA returned a negative results for GCN	Data sufficient and accurate	GCN Absent	N/A

P061	eDNA and Conventional	Visits 1, 4, 5 and 6: Thick coating of algae covering 95% of water surface. High veg cover Visits 1, 2 and 4: High turbidity Visit 6: only 5% of pond's edge accessible.	Potential to under record GCN present within pond.	Peak count of 1 and GCN eggs found. Peak count from bottle trapping on visit 4 when veg cover and turbidity was high which isn't considered a constraint to bottle trapping. The HSI score was "Poor" suggesting this pond is suboptimal for GCN and it is isolated in an arable field without favourable connecting habitat to any other ponds.	Population class estimate accurate as pond unlikely to hold "Medium" class estimate.	GCN Present	Small
P062	eDNA only	Heavy bramble and rose coverage. Could only access one area of the bank.	None	eDNA returned a positive results for GCN and HSI score was Good. Adjacent to Good and Excellent HSI ponds and within metapopulation with medium populations so medium population is assumed	eDNA data sufficient and accurate. Assumed medium population	GCN Present	Assumed medium
P063	No Survey	Dry	Dry ponds are considered largely unsuitable for breeding GCN	Dry at time of survey visit undertaken during the survey season (March-June)	Data sufficient and accurate	Dry	N/A
P064	eDNA and Conventional	Visits 4 to 6: 90-95% of pond covered with duckweed. 40-50% of banks inaccessible due to dense vegetation. Visit 6: temperature too high for bottle-trapping so only torching undertaken at 18 degrees (17 degrees minimum temperature overnight).	Potential to under record GCN present within pond.	Peak count of 16 with GCN eggs found. HSI score was "Good" and pond within a metapopulation of ponds containing medium populations. Peak count from torching on visit 3, which was unconstrained. Activity levels low from visit 4 (peak count of 1) and extrapolating upwards from this maintains population class estimate.	Population class estimate accurate as pond unlikely to hold "Large" class estimate.	GCN Present	Medium
P065	No Survey	No Access	Insufficient data to determine likely GCN absence or presence	GCN present (medium) populations in ponds surveyed <300m (P064 and P126) with suitable connecting habitat present. No HSI information so population size class can't be assumed	GCN assumed present	GCN assumed present - No access	Unknown
P066	Conventional	Visit 1: air temperature dropped below 5 degrees, so no bottle trapping or torching was undertaken. Netting and egg search undertaken during the day whilst temperature above 5 degrees. Visit 2: no bottle trapping due to steep banks, dense scrub and deep water (H&S concern). Bottle trapping continued from visit 3 when water level dropped. Visit 6: very turbid water constrained torching.	Sufficient access for torching along shoreline to ensure data validity	Peak count of 37 with GCN eggs found and HSI score "Average". Peak count during torching surveys on visit 2 when there were no constraints.	Data sufficient and accurate	GCN Present	Medium
P067	Conventional	Visit 1: air temperature dropped below 5 degrees, so no bottle trapping or torching undertaken. Netting undertaken whilst temperature above 5 degrees. GCN eggs found during the HSI visit, so no further egg search undertaken. Visits 1 to 6: steep banks and dense scrub prevented access, only 15-20% of banks accessible. No bottle trapping on visit 2 due to steep banks. Bottle trapping continued from visit 3 when water level had dropped. Visit 1 to 5: High turbidity	Potential to under record GCN present within pond.	Peak count of 9 with GCN eggs found. Peak count from bottle trapping on visit 3 when 15%-20% of bank was accessible. If count is extrapolated upwards then a peak count of 60 is possible. HSI score was "Average" so pond not considered to support "Large" population size class.	Assumed "Medium" population	GCN Present	Assumed medium
P068	eDNA only	70% of pond sampled	Potential not to record GCN presence.	eDNA negative however sampling was constrained. The HSI of P068 was "Good" and this pond is within 100m of a known GCN population (small population at P107). Connecting habitat between these ponds is suitable therefore presence of GCN in P068 cannot be ruled out.	GCN assumed present, assumed small population	GCN assumed present - eDNA constraints	Assumed small

P069	No Survey	No Access	Insufficient data to determine likely GCN absence or presence	Not near any known desk study records or metapopulations (ponds in the area absent/unsuitable/dry/scoped out/unknown). Cannot confidently assume absence therefore unknown.	Unknown	Unknown - No access	N/A
P070	No Survey	No Access	Insufficient data to determine likely GCN absence or presence	Not near any known desk study records or metapopulations (ponds in the area absent/unsuitable/dry/scoped out/unknown). Cannot confidently assume absence therefore unknown.	Unknown	Unknown - No access	N/A
P075	No Survey	No Access	Insufficient data to determine likely GCN absence or presence	Not near any known desk study records or metapopulations (ponds in the area absent/unsuitable/dry/scoped out/unknown). Cannot confidently assume absence therefore unknown.	Unknown	Unknown - No access	N/A
P079	eDNA and Conventional	50% of pond sampled for eDNA. Visits 2 to 6; steep banks and dense scrub prevented access, only 40% of banks accessible. 85% of pond surface covered in macrophytes and obscured by vegetation.	Potential to under record GCN present within pond.	Peak count of 29 with GCN eggs found. HSI score was "Excellent". Peak count from torching on visit 1. Only 40% of the bank could be accessed so if peak count is extrapolated upwards then a peak count of 73 is possible however surveying conditions on visit 1 were optimal (veg cover was 2 and turbidity 0) so it is unlikely that peak count would be >100.	Population class estimate accurate as pond unlikely to hold "Large" class estimate.	GCN Present	Medium
P080	No Survey	Dry	Dry ponds are considered largely unsuitable for breeding GCN	Dry at time of survey visit undertaken during the survey season (March-June)	Data sufficient and accurate	Dry	N/A
P081	eDNA and Conventional	Visits 4 and 5; dense duckweed and algae cover constrained torching.	Potential to under record GCN present within pond.	Peak count of 10 from bottle trapping on visit 2 which was unconstrained and HSI score was "Excellent"	Population class estimate accurate as pond unlikely to hold "Large" class estimate.	GCN Present	Medium
P082	eDNA and Conventional	Small patches of algae at pond edge. Some trees at pond edge preventing 100% access. Still able to get >90% access. Visits 1 to 3; turbid water, duckweed covered 40% of the pond's water surface. Only 3 visits undertaken as conventional surveys started late in the season (02/06/2021 due to access constraints)	Potential to under record GCN present within pond.	eDNA positive but no GCN recorded in the pond during conventional surveys which started in June and only 3 were undertaken. However there were no constraints to bottle trapping, pond is >250m from P088 (small population) via connecting habitat, and HSI score was "Average".	Assumed "Small" population	GCN Present	Assumed small
P096	No Survey	Defunct	N/A	Defunct ponds are considered unsuitable for breeding GCN	Data sufficient and accurate	Pond Not Extant	N/A
P103	eDNA only	80% of pond sampled	Potential not to record GCN presence.	eDNA negative however sampling was constrained. The HSI of P103 was "Average". Not near any known populations (ponds in the area absent/unsuitable/dry/scoped out/unknown). Result considered to be correct.	GCN assumed absent	GCN assumed absent - eDNA constraints	N/A
P104	No Survey	No Access	Insufficient data to determine likely GCN absence or presence	Adjacent to P031 where presence has been assumed due to proximity to GCN population and "Good" HSI score.	GCN assumed present	GCN assumed present - No access	Unknown
P105	eDNA only	High algal growth. Pond almost dry with no suitable egg laying material	Potential not to record GCN presence.	eDNA negative however sampling was constrained. The HSI of P105 was "Poor". Not near any known populations (ponds in the area absent/unsuitable/dry/scoped out/unknown). Result considered to be correct.	GCN assumed absent	GCN assumed absent - eDNA constraints	N/A

P107	eDNA and Conventional	Visits 1 to 6: 60-90% of pond bank inaccessible due to dense vegetation. Visits 5 and 6: duckweed and pondweed obscured 75% of pond water surface.	Potential to under record GCN present within pond.	Peak count of 1 and GCN eggs found. Peak count from bottle trapping on visit 4 constrained by access (minimum 10% accessed). If peak count is extrapolated upwards a score was "Below Average" suggesting sub optimal conditions.	Population class estimate accurate as pond unlikely to hold "Medium" class estimate.	GCN Present	Small
P108	eDNA only	None	None	eDNA returned a negative results for GCN	Data sufficient and accurate	GCN Absent	N/A
P109	eDNA only	None	None	eDNA returned a negative results for GCN	Data sufficient and accurate	GCN Absent	N/A
P114	No Survey	No Access	Insufficient data to determine likely GCN absence or presence	Not near any known desk study records or metapopulations (ponds in the area absent/unsuitable/dry/scoped out/unknown). Cannot confidently assume absence therefore unknown.	Unknown	Unknown - No access	N/A
P115	eDNA only	None	None	eDNA returned a negative results for GCN	Data sufficient and accurate	GCN Absent	N/A
P116	eDNA only	None	None	eDNA returned a negative results for GCN	Data sufficient and accurate	GCN Absent	N/A
P117	eDNA only	Dense bramble cover blocking access. 10% of pond sampled	Potential not to record GCN presence.	eDNA negative however sampling was constrained. The HSI of P117 was "Poor" so therefore considered likely to be largely unsuitable for GCN. Result considered correct.	GCN assumed absent eDNA constraints	GCN assumed absent - eDNA constraints	N/A
P118	eDNA only	Duckweed and limited access. 30% of pond sampled	Potential not to record GCN presence.	eDNA negative however sampling was constrained. The HSI of P118 was "Below Average" and is situated >250m from known GCN populations in more suitable habitat therefore result considered correct.	GCN assumed absent eDNA constraints	GCN assumed absent - eDNA constraints	N/A
P119	eDNA and Conventional	eDNA undertaken in 2019 when access was available. Access very difficult to most of the pond. Only one vantage point for torch survey (visibility of pond approx 20%) which was very limited by vegetation and no access to water for bottle-trapping. Pond inaccessible after visit 4 as vegetation obscured vantage point	Potential to under record GCN present within pond.	eDNA positive however suitable access was not possible to undertake meaningful conventional surveys and no GCN were recorded during visit 1-4. HSI score was "Below Average" and the pond is adjacent to P120 which contains a small GCN population. Part of a metapopulation that contains more favourable habitat.	Assumed "Small" population	GCN Present	Assumed small
P120	eDNA and Conventional	Had to survey in section of the pond with dense algal growth. 10% of pond sampled for eDNA. Algae covering much of the pond. difficult to torch. Dense scrub limited access to 50% of the banks.	Potential to under record GCN present within pond.	Peak count of 2 with GCN eggs found and HSI score "Poor". Only 50% accessible so if peak count is extrapolated upwards a peak count of 4 is possible. Part of a metapopulation that contains more favourable habitat.	Population class estimate accurate as pond unlikely to hold "Medium" class estimate.	GCN Present	Small
P121	eDNA and Conventional	Couldn't access north bank. 40% of pond sampled for eDNA. 60% of bank inaccessible and 90-95% macrophyte cover. constrained bottle trapping and torching.	Potential to under record GCN present within pond.	Peak count of 3 with GCN eggs found from bottle trapping on visit 1. If peak count is extrapolated upwards a peak count of 8 is possible. Part of a metapopulation that contains more favourable habitat.	Population class estimate accurate as pond unlikely to hold "Medium" class estimate.	GCN Present	Small
P122	No Survey	Scoped out	Insufficient data to determine likely GCN absence or presence	Swimming Pool - unsuitable for GCN	Data sufficient and accurate	Scoped Out	N/A

	eDNA and Conventional	Potential to under record GCN present within pond.	GCN Present	Population class estimate accurate as pond unlikely to hold "Large" class estimate.	Medium
P123	90% of pond sampled for eDNA. Plastic pond lining, bottle-trap canes were inserted horizontally into bank on first survey visit. No bottle-traps during visits 2 to 6 as this technique may have still damaged pond liner. Visit 3: Only 40% of bank accessible to survey. Duckweed covering 90-95% of water surface. Visit 5-6: Dense algal growth impeded visibility Steep banks prevented access to much of pond. 10% of pond sampled for eDNA. No egg search as no accessible vegetation.	Potential to under record GCN present within pond.	Peak count of 14 with GCN eggs found. Peak count from torching during optimal conditions. Pond within metapopulation and <100m from pond with medium population (P048) however HSI score was "Average".	Population class estimate accurate as pond unlikely to hold "Large" class estimate.	Medium
P124	eDNA only	None	eDNA returned a positive results for GCN. Pond is within medium metapopulation however HSI score was Average so small population is assumed.	Data sufficient and accurate, assumed small population	Assumed small
P125	No Survey	N/A	Defunct ponds are considered unsuitable for breeding GCN	Data sufficient and accurate	N/A
P126	eDNA and Conventional No constraints to eDNA. landowner did not allow further access to pond after two visits.	Potential to under record GCN present within pond.	Peak count of 40 with GCN eggs found. This pond is within a metapopulation and 60m from a pond with a medium population (P064). Only 2 visits were undertaken however peak count was recorded during mid-April - mid-May window and HSI score was "poor" so its unlikely this pond supports a "Large" population.	Population class estimate accurate as pond unlikely to hold "Large" class estimate.	Medium
P127	No Survey	N/A	Defunct ponds are considered unsuitable for breeding GCN	Data sufficient and accurate	N/A
P128	No Survey	N/A	Defunct ponds are considered unsuitable for breeding GCN	Data sufficient and accurate	N/A
P129	No Survey	N/A	Defunct ponds are considered unsuitable for breeding GCN	Data sufficient and accurate	N/A
P130	eDNA and Conventional Dense duckweed and bulrush cover: 80% (visit 4), 95% (visit 5), 100% (visit 6). Visit 5: 85% of bank inaccessible due to dense vegetation. 50% of pond sampled	Potential to under record GCN present within pond.	Peak count of 3 however only 85% of pond surveyed. If peak count is extrapolated upwards a peak count is still 3.	Assumed "small" population	Assumed small
P131	eDNA only	Potential not to record GCN presence.	eDNA negative however sampling was constrained. The HSI of P131 was "Average" and this pond is situated >250m from known GCN populations with suboptimal connecting habitat therefore result considered correct.	GCN assumed absent eDNA constraints	N/A
P132	No Survey	Insufficient data to determine likely GCN absence or presence	No GCN present in closest pond (P131) 150m south-west. GCN are present 220m east in P061 (small pop) however P061 is isolated in an arable field with unsuitable connecting habitat.	GCN assumed absent access	N/A
P133	No Survey	N/A	Defunct ponds are considered unsuitable for breeding GCN	Data sufficient and accurate	N/A
P134	eDNA only 50% of pond sampled	Potential not to record GCN presence.	eDNA negative however sampling was constrained. The HSI of P134 was "Average" however this pond is isolated within a large arable field and not connected to any other pond via suitable habitat therefore the result is considered correct.	GCN assumed absent eDNA constraints	N/A
P135	eDNA and Conventional 10% of pond sampled for eDNA. Limited access to pond bank (only 10%). Turbid water (visits 3 and 4).	Potential to under record GCN present within pond.	eDNA positive but no GCN recorded in the pond during conventional surveys although eggs found on visit 6. HSI score was "Below Average" and pond is located in metapopulation containing small populations.	Assumed "Small" population	Assumed small

P136	eDNA and Conventional	30% of pond sampled for eDNA. Visit 1: steep banks and dense bramble prevented access to two sides of the pond. Only one visit (comprising solely torching) undertaken due to H&S constraints (landowner was verbally abusive to surveyors during the first visit).	Potential to under record GCN present within pond.	eDNA positive but no GCN recorded in the pond during conventional surveys however only 1 visit undertaken. HSI score was "Average" and this pond is on the edge of metapopulation with the closest pond (P052) containing a small population.	Assumed "Small" population	GCN Present	Assumed small
P137	eDNA and Conventional	30% of pond sampled for eDNA. Visit 2: 50% of pond bank inaccessible. Visit 3: very low water level. Visit 4: livestock prevented surveying. Visits 3,4 and 6 - high veg cover.	Potential to under record GCN present within pond.	Peak count of 5 with eggs and larvae found. Only 50% of pond bank accessible so if peak count was extrapolated upwards then a peak count of 10 is possible. This pond is within a metapopulation with good connecting habitat and HSI score was "Excellent" so medium population assumed.	Assumed "Medium" population	GCN Present	Assumed medium
P138	No Survey	Defunct	N/A	Defunct ponds are considered unsuitable for breeding GCN	Data sufficient and accurate	Pond Not Extant	N/A
P139	No Survey	Dry	Dry ponds are considered largely unsuitable for breeding GCN	Dry at time of survey visit undertaken during the survey season (March-June)	Data sufficient and accurate	Dry	N/A
P140	eDNA and Conventional	Visit 3: water level low. Visit 4: dry pond. Pond filled back up with water following wet spell. Visit 5: livestock prevented surveying. Visit 6: only 10m of bank accessible. Dense macrophyte growth.	Potential to under record GCN present within pond.	Peak count 3 with GCN eggs found. Surveys constrained due to fluctuating water levels and H&S. Peak count from visit 6 when only 10m of the bank accessible (20%). If count is extrapolated upwards then a peak count of 15 is possible. The HSI score was "Good" and this pond is in a metapopulation with good connecting habitat.	Assumed "Medium" population	GCN Present	Assumed medium
P141	No Survey	Defunct	N/A	Defunct ponds are considered unsuitable for breeding GCN	Data sufficient and accurate	Pond Not Extant	N/A
P142	No Survey	No Access	Insufficient data to determine likely GCN absence or presence	Adjacent to Theberton Woods which has a known GCN metapopulation and 150m from P143 (small population)	GCN assumed present	GCN assumed present - No access	Unknown
P143	eDNA and Conventional	50% of pond sampled for eDNA. Visits 1, 4, 5 and 6: dense duckweed covered water surface. Visit 6: 60% bank inaccessible due to steep banks and scrub.	Potential to under record GCN present within pond.	Peak count of 5 with GCN eggs found and HSI score of "Below Average". Peak count from bottle trapping on visit 2 which was unconstrained. Pond within likely metapopulation associated with Theberton Woods	Population class estimate accurate as pond unlikely to hold "Medium" class estimate.	GCN Present	Small
P144	No Survey	No Access	Insufficient data to determine likely GCN absence or presence	Adjacent to Theberton Woods which has a known GCN metapopulation and 150m from P143 (small population)	GCN assumed present	GCN assumed present - No access	Unknown
P145	eDNA only	20% of pond sampled	Potential not to record GCN presence.	eDNA negative however sampling was constrained. The HSI of P145 was "Poor" however is located 40m from P058, which supports a small population, therefore GCN presence in this pond cannot be ruled out.	GCN assumed present, assumed small population	GCN assumed present - eDNA constraints	Assumed small population
P146	No Survey	No Access	Insufficient data to determine likely GCN absence or presence	Close to Theberton Woods which has a known GCN metapopulation and linked with suitable connecting habitat	GCN assumed present	GCN assumed present - No access	Unknown
P147	No Survey	No Access	Insufficient data to determine likely GCN absence or presence	Close to Theberton Woods which has a known GCN metapopulation and linked with suitable connecting habitat	GCN assumed present	GCN assumed present - No access	Unknown

	eDNA only	70% of pond sampled, high sediment in sample	Potential not to record GCN presence.	eDNA negative however sampling was "Excellent". The HSI of P148 was "Excellent". This pond is situated close to Theberton wood where there are known GCN populations and is connected to these populations by suitable habitat therefore GCN presence in this pond cannot be ruled out.	GCN assumed present	GCN assumed present - eDNA constraints	Unknown
P148							
P149	No Survey	Defunct	N/A	Defunct ponds are considered unsuitable for breeding GCN	Data sufficient and accurate	Pond Not Extant	N/A
P150	No Survey	No Access	Insufficient data to determine likely GCN absence or presence	No GCN in closest pond surveyed (P214 - 150m north).	GCN assumed absent	GCN assumed absent - No access	N/A
P151	eDNA only	None	None	eDNA returned a negative result for GCN	Data sufficient and accurate	GCN Absent	N/A
P152	No Survey	Defunct	N/A	Defunct ponds are considered unsuitable for breeding GCN	Data sufficient and accurate	Pond Not Extant	N/A
P153	eDNA only	70% of pond sampled, medium sediment in sample	Potential to not record GCN presence.	eDNA negative however sampling was constrained. HSI was "Below Average". Not near any known metapopulations (ponds in the area absent/unsuitable/dry/scoped out/unknown). Result considered to be correct.	GCN assumed absent	GCN assumed absent - eDNA constraints	N/A
P158	No Survey	Defunct	N/A	Defunct ponds are considered unsuitable for breeding GCN	Data sufficient and accurate	Pond Not Extant	N/A
P160	eDNA only	None	None	eDNA returned a negative result for GCN	Data sufficient and accurate	GCN Absent	N/A
P163	eDNA and Conventional	Visit 2: duckweed covering 90% of pond. Visit 6: pond too shallow to bottle-trap.	Sufficient bottle traps were deployed along shoreline to ensure data validity	Peak count of 1 on visit 3 through bottle trapping when there were no constraints. HSI score "Average"	Data sufficient and accurate	GCN Present	Small
P164	eDNA and Conventional	One side of pond inaccessible. 60% of pond sampled for eDNA. Visit 1: only 60% of bank surveyed due to dense vegetation. Visit 4: macrophyte cover has increased which constrained torching survey. Visit 5: edge of pond was heavily vegetated.	Potential to under record GCN present within pond.	Peak count of 2 with GCN eggs found with HSI score of "Average". Peak estimate accurate as pond unlikely to hold conditions were optimal however only 60% of bank accessible. If peak count is extrapolated upwards a peak count of 4 is possible.	Population class estimate accurate as pond unlikely to hold "Medium" class	GCN Present	Small
P165	No Survey	Dry	Dry ponds are considered largely unsuitable for breeding GCN	Dry at time of survey visit undertaken during the survey season (March-June)	Data sufficient and accurate	Dry	N/A
P166	eDNA and Conventional	Could not access all of pond. eDNA Samples taken from two spots (20%) 50% of bank surveyed due to dense vegetation. Visit 6: very turbid.	Potential to under record GCN present within pond.	Although only 50% of the bank was surveyed this pond was small so it is assumed that bottle trap coverage was sufficient. Furthermore torching was undertaken across all the pond. Visits 1 - 5 in optimal conditions with full visibility across the pond.	Data sufficient and accurate	GCN Present	Small
P167	eDNA and Conventional	Pond almost completely dry on visits 5 and 6. Visit 5: too shallow to bottle trap, netting undertaken. Visit 6: too shallow to either bottle trap or net.	Sufficient bottle traps were deployed along shoreline to ensure data validity	Pond was very small (2m diameter) and sub-optimal for GCN, despite positive eDNA result, so survey effort considered robust to cover the whole pond.	Data sufficient and accurate	GCN Present	Small
P168	No Survey	Dry	Dry ponds are considered largely unsuitable for breeding GCN	Dry at time of survey visit undertaken during the survey season (March-June)	Data sufficient and accurate	Dry	N/A
P169	No Survey	Defunct	N/A	Defunct ponds are considered unsuitable for breeding GCN	Data sufficient and accurate	Pond Not Extant	N/A
P170	No Survey	No Access	Insufficient data to determine likely GCN absence or presence	Not near any known desk study records or metapopulations (ponds in the area absent/unsuitable/dry/scoped out/unknown). Cannot confidently assume absence therefore unknown.	Unknown	Unknown - No access	N/A

	eDNA only	Pond fenced off. Could only access one small area (10%)	No eDNA undertaken as eggs found during HSI survey	Potential not to record GCN presence.	eDNA negative however sampling was constrained. The HSI of P171 was "Good" and this pond is within 100m of P062 and P172 where GCN presence has been recorded, and therefore GCN presence in this pond cannot be ruled out.	GCN assumed present - eDNA constraints	Assumed medium population
P171							
P172	Egg search	No eDNA undertaken as eggs found during HSI survey	None		Presence of GCN eggs confirms GCN presence in pond. Adjacent to Good and Excellent HSI ponds and within metapopulation with medium populations so medium population is assumed	GCN Present	Assumed medium population
P210	eDNA and Conventional	70% of pond sampled for eDNA. Visit 1: no aquatic vegetation, so no egg search undertaken.	Sufficient bottle traps were deployed along shoreline to ensure data validity		Full pond coverage. HSI score "Poor"	GCN Present	Small
P211	eDNA and Conventional	Thick vegetation around the pond. Only a small area was accessible safely to deploy bottles (visits 1 and 2). Pond inaccessible from visit 3 onwards.	Potential to under record GCN present within pond.		eDNA positive but no GCN recorded in the pond during conventional surveys however access was only available for visits 1 and 2 (due to dense scrub that became impenetrable) and was restricted to one spot in pond. HSI score was "Poor" however pond is situated in metapopulation with both small (P053) and medium (P140) populations <100m via suitable connecting habitat.	GCN Present	Assumed small
P212	No Survey	No Access	Insufficient data to determine likely GCN absence or presence		Within Theberton Woods which has a known GCN metapopulation and adjacent to P143 (small population)	GCN assumed present - No access	Unknown
P213	No Survey	No Access	Insufficient data to determine likely GCN absence or presence		Close to Theberton Woods which has a known GCN metapopulation and linked with suitable connecting habitat	GCN assumed present - No access	Unknown
P214	eDNA only	20% of pond sampled	Potential not to record GCN presence.		eDNA negative however sampling was constrained. The HSI of P214 was "Below Average". Not near any known metapopulations (ponds in the area absent/unsuitable/dry/scoped out/unknown). Result considered to be correct.	GCN assumed absent eDNA constraints	N/A
P215	eDNA and Conventional	Pond was dry on visit 3 but filled up with water and surveyed on visit 4. Pond then became dry again after visit 4.	Potential to under record GCN present within pond.		Peak count of 3 with GCN eggs found and "Below Average" HSI score. Only 3 visits undertaken due to changing water levels however pond would have become largely unsuitable for breeding GCN after drying out.	GCN Present	Small
P216	No Survey	Dry	Dry ponds are considered largely unsuitable for breeding GCN		Dry at time of survey visit undertaken during the survey season (March-June)	Dry	N/A
P222	No Survey	No Access	Insufficient data to determine likely GCN absence or presence		Not near any known desk study records or metapopulations (ponds in the area absent/unsuitable/dry/scoped out/unknown). Cannot confidently assume absence therefore unknown.	Unknown - No access	N/A
P224	No Survey	Defunct	N/A		Defunct ponds are considered unsuitable for breeding GCN	Pond Not Extant	N/A

Additional Sheet C - Detailed Metapopulation Descriptions

For the purposes of this licence, GCN were considered to be part of the same metapopulation where ponds were located within close proximity to each other (usually up to 250m but up to 500m in some cases), there was presence of good habitat connectivity, and there was absence of barriers between ponds.

All peak counts across a population were derived from the total number of GCN counted during a single night using one survey method. Where surveys were constrained due to access or other limitations, assumed populations have been included within the metapopulations described below.

Although, assumptions have been made for several populations, the data present below is considered robust, and the reasonable worst-case scenario has been used in the absence of data. Full description of constraints and if they are limiting is displayed in Additional Sheet C – Survey Info – Tab C5.

Ponds P049 (medium population size class), P057 (assumed medium) P061 (small) and P130 (small) have not been included in metapopulations due to the lack of other GCN populations within their proximity.

Metapopulation 1

Metapopulation 1 is situated around the western extent of the site and includes ponds P031, P032, P035, P040, P041, P042, P043, P068, P069, P104 and P107 (Peak count 09/06/2021 = 1).

Survey information for metapopulation 1 included eDNA and conventional surveys undertaken at P032, P035, P041, P043 and P107 and eDNA survey only, undertaken at P031, P040, P042 and P068. No surveys were undertaken at P069 and P104 due to lack of access however presence has been assumed due to the proximity to GCN ponds.

Table 1 Survey results and constraints for Metapopulation 1

Pond Ref	HSI	Survey Result	Constraints	Is this a limiting factor?	Revised Result
P031	Good	eDNA negative – GCN absent	10% of pond sampled	Yes - pond not fully surveyed. Good HSI and connected to P035 through suitable habitat.	Assumed GCN present, small population
P032	Average	Eggs found – GCN present	Pond drying out from visit 3 and dry by visit 5	No – HSI was average, and pond became unsuitable for GCN once dry	Small population
P035	Poor	Positive eDNA but negative conventional survey	Only 10-20% of banks accessible due to dense scrub.	Yes - pond not fully surveyed but poor HSI	Assumed small population
P040	Good	eDNA negative –	Dense bramble scrub	Yes – pond not fully	Assumed GCN

Pond Ref	HSI	Survey Result	Constraints	Is this a limiting factor?	Revised Result
		GCN absent	prevented approx. 70% of access	surveyed. Good HSI	present, small population
P041	Average	Positive eDNA but negative conventional survey	Visits 4 to 6 heavily constrained	No – Visits 1-3 were unconstrained	Assumed small population
P042	Below Average	eDNA negative – GCN absent	50% of pond sampled	Yes – pond not fully surveyed.	Assumed GCN present, small population
P043	Below Average	Positive eDNA but negative conventional survey	Visits 3 to 6 heavily constrained by algae and floating branches / leaves. High turbidity	No – Below Average HSI	Assumed small population
P068	Good	eDNA negative – GCN absent	70% of pond sampled	Yes – pond not fully surveyed. Good HSI	Assumed GCN present, small population
P069	Good (estimated)	N/A	No access	Yes – No survey data. 350m from P068	Assumed GCN present
P104	Below Average (estimated)	N/A	No access	Yes – No survey data. Adjacent to P031	Assumed GCN present
P107	Below Average	Small population (peak count = 1)	60-90% of pond bank inaccessible due to dense vegetation.	No – peak count extrapolated upwards with same population size class result	Small population, (possible peak count = 10)

Metapopulation 1 was determined to support a “**small**” population size class. This is also considered a fair representation of the affected habitats within the site boundary at this location.

Metapopulation 2

METAPOPOPULATION 2 is located adjacent to the East Suffolk railway line and includes ponds P036, P045, P048, P067, P079, P119, P120, P121, P123, P124, P166 and P167 (Peak count 01/06/2021 & 10/06/2021 = 77)

Survey information for Metapopulation 2 includes conventional survey data collected at all ponds except P119 and P124, which were only subject to eDNA surveys.

Table 2 Survey results and constraints for Metapopulation 2

Pond Ref	HSI	Survey Result	Constraints	Is this a limiting factor?	Revised Result
P036	Good	Small population (peak count = 3)	20% of bank surveyed due to dense vegetation,	Yes – peak count extrapolated upwards due to limited bankside access	Assumed medium population, (possible peak count = 15)
P045	Poor	Positive eDNA but negative conventional survey	30% of bank surveyed due to access	Yes – pond not adequately surveyed	Assumed small population
P048	Average	Medium population (peak count = 58)	Visits 5 and 6 not undertaken due to end in land access agreement.	No – Survey coverage unconstrained	Medium population
P067	Average	Small population (peak count = 9)	Visits 1 to 6: steep banks and dense scrub prevented access, only 15-20% of banks accessible.	Yes – peak count extrapolated upwards due to limited bankside access	Assumed medium population, (possible peak count = 60)
P079	Excellent	Medium population (peak count = 29)	Only 40% of banks accessible	No – peak count extrapolated upwards with same result	Medium population, (possible peak count = 73)
P119	Below Average	eDNA positive – GCN present	Pond inaccessible with only small section visible for torching	Yes – pond not adequately surveyed. Adjacent to pond with small pop.	Assumed small population
P120	Poor	Small population (peak count =	Dense scrub limited access to 50% of the	No – peak count extrapolated	Small population, (possible

Pond Ref	HSI	Survey Result	Constraints	Is this a limiting factor?	Revised Result
		2)	banks.	upwards with same result	peak count = 4)
P121	Average	Small population (peak count = 3)	60% of bank inaccessible	No – peak count extrapolated upwards with same result	Small population, (possible peak count = 8)
P123	Average	Medium population (peak count = 14)	No bottle trapping visits 2-6.	No – torching undertaken during optimal conditions	Medium population
P124	Average	eDNA positive – GCN present	10% of pond sampled for eDNA	Yes – no conventional surveys undertaken. Average HSI	Assumed small population
P166	Poor	Small population (peak count = 3)	50% of bank surveyed due to dense vegetation.	No – data sufficient and accurate	Small population
P167	Poor	Positive eDNA but negative conventional survey	Pond almost completely dry on visits 5 and 6.	No – data sufficient and accurate	Assumed small population

Metapopulation 2 was determined to support a “**medium**” population size class with the ponds supporting higher peak counts situated to the south of the development around Fordley Hall.

Ponds P045, P079, P121 and P067 are >250m but <500m from the cluster of 8 ponds that form the main part of Metapopulation 3. These have been included within this metapopulation due to the presence of good terrestrial habitat that connects these ponds.

The pond at the east edge of Metapopulation 3 (P036) is 480m from the closest pond in Metapopulation 3 (P164) however, once travel through potential connecting habitat is accounted for, the distance amounts to 740m. This is considered sufficient distance to assume that this is the likely boundary between Metapopulation 2 and 3.

Metapopulation 2 was determined to support a “**medium**” population size class. This is also considered a fair representation of the affected habitats within the site boundary at this location.

Metapopulation 3

Metapopulation 3 is situated to the north of the site around Middleton Moor and includes ponds P062, P064, P065, P066, P126, P164, P171, P172 and P215 (Peak count 10/05/2021 = 56)

Survey information for Metapopulation 3 includes eDNA and conventional survey data collected for P064, P066, P126, P164 and P215 and eDNA surveys only on P062, P171 and P172. No surveys were undertaken at P065 due to lack of access however presence has been assumed due to the proximity to GCN ponds.

Table 3 Survey results and constraints for Metapopulation 3

Pond Ref	HSI	Survey Result	Constraints	Is this a limiting factor?	Revised Result
P062	Good	eDNA positive – GCN present	No constraints to eDNA survey however no conventional surveys undertaken	Yes – lack of survey data. Adjacent to Good and Excellent HSI ponds and within metapopulation with medium populations	Assumed medium population
P064	Good	Medium population (peak count = 16)	40-50% of banks inaccessible due to dense vegetation visit 4.	No - Peak count from torching on visit 3, which was unconstrained	Medium population
P065	Unknown	N/A	No access	Yes – No survey data	Assumed GCN present
P066	Good	Medium population (peak count = 37)	No bottle trapping due to deep water (H&S concern)	No – torching not constrained and considered sufficient	Medium population
P126	Poor	Medium population (peak count = 40)	Only 2 visits undertaken	No – HSI poor so unlikely to support a large population	Assumed medium population
P164	Average	Small population (peak count = 2)	Only 60% of bank surveyed due to dense vegetation.	No – peak count extrapolated upwards with same result	Small population, (possible peak count ~ 3)
P171	Good	eDNA negative – GCN absent	Could only access one small area (10%)	Yes – pond not fully surveyed. Good HSI however negative eDNA	Assumed medium population

Pond Ref	HSI	Survey Result	Constraints	Is this a limiting factor?	Revised Result
P172	Excellent	Eggs found – GCN present	No conventional surveys	Yes - lack of survey data. Adjacent to Good and Excellent HSI ponds and within metapopulation with medium populations	Assumed medium population
P215	Below Average	Small population	Pond dry on visit 3 but filled up again after rain and surveyed on visit 4. Pond dry again visit 5 onwards	No – HSI was below average and pond likely to become largely unsuitable for breeding GCN after drying out	Small population

Metapopulation 3 was determined to support a “**medium**” population size class. Despite the constraints, it was not considered likely that P062, P065, P171 and P172 would support sufficient GCN to increase the metapopulation size class to “large”.

This metapopulation may also be genetically connected to Metapopulation 2; however, they have been considered as two separate metapopulations as the nearest ponds are situated approximately 470m from each other and separated by predominately sub-optimal arable terrestrial habitats.

Due to the suboptimal nature of the majority of the habitats within the site boundary at this location and the distance from the site of the GCN ponds supporting a GCN at higher abundance, a “**small**” population size class is considered a more appropriate representation of the sites affected habitats.

Metapopulation 4

Metapopulation 4 is located in the southern extent of the site and includes ponds P051, P052, P053, P058, P081, P082, P135, P136, P137, P140, P142, P143, P144, P145, P146, P147, P148, P163, P210, P211, P212 and P213 (Peak count 10/05/2021 = 11)

Survey information for Metapopulation 4 includes from eDNA and conventional survey data collected at P051, P052, P053, P058, P081, P082, P135, P136, P137, P140, P143, P163, P210 and P211 and eDNA surveys only at P145 and P148. No surveys were undertaken at P142, P144, P146, P147, P212 and P213 due to lack of access however presence has been assumed due to the proximity to GCN ponds and presence of suitable connecting habitat to those in Theberton Woods County Wildlife Site (>500m to the west of the site) that support a significant GCN population

Table 4 Survey results and constraints for Metapopulation 4

Pond Ref	HSI	Survey Result	Constraints	Is this a limiting factor?	Revised Result
P051	Below Average	Small population	Only 60% of the pond	No - peak count	Small population,

Pond Ref	HSI	Survey Result	Constraints	Is this a limiting factor?	Revised Result
		(peak count = 5)	accessible for conventional survey	extrapolated upwards with same result	(possible peak count = 9)
P052	Average	Positive eDNA but negative conventional survey	Visits 2 – 4 pond too shallow to bottle trap	No – Average HSI	Assumed small population
P053	Good	Positive eDNA but negative conventional survey	Very limited access on visits 1 to 3 and no access from visit 4.	No - HSI score was "Good" but in close to proximity with ponds where only small populations were recorded.	Assumed small population
P058	Below Average	Small population (peak count = 1)	None	No	Small population
P081	Excellent	Medium population (peak count = 10)	Visits 4 and 5: dense duckweed and algae cover constrained torching.	No – Peak bottle trapping on visit 2	Medium population
P082	Average	Positive eDNA but negative conventional survey	Only 3 visits undertaken	No - no constraints to bottle trapping, pond is >250m from P058 (small population) via connecting habitat. and HSI score was "Average".	Assumed small population
P135	Below Average	Positive eDNA but negative conventional survey	Limited access to pond bank (only 10%).	No – Below Average HSI	Assumed small population
P136	Average	Positive eDNA but negative conventional survey	Only one visit (comprising solely torching) undertaken due to H&S constraints	No - HSI score was "Average" and this pond is on the edge of metapopulation with the closest pond (P052)	Assumed small population

Pond Ref	HSI	Survey Result	Constraints	Is this a limiting factor?	Revised Result
				containing a small population	
P137	Excellent	Small population (peak count = 5)	50% of pond bank inaccessible	Yes - peak count extrapolated upwards and excellent HSI	Assumed medium population, (possible peak count = 10)
P140	Good	Small population (peak count = 3)	Fluctuating water levels. 20% of pond accessible	Yes - peak count extrapolated upwards	Assumed medium population, (possible peak count = 15)
P142	Unknown	N/A	No access	Yes – No survey data	GCN assumed present
P143	Below Average	Small population (peak count = 5)	Visits 1, 4, 5 and 6: dense duckweed covered water surface.	No - Peak count from bottle trapping which was unconstrained	Small population
P144	Unknown	N/A	No access	Yes – No survey data	GCN assumed present
P145	Poor	eDNA negative – GCN absent	20% of pond sampled	Yes - pond not fully surveyed and located 40m from P058 (small population)	Assumed GCN present, small population
P146	Unknown	N/A	No access	Yes – No survey data	Assumed GCN present, likely small population
P147	Unknown	N/A	No access	Yes – No survey data	Assumed GCN present, likely small population
P148	Excellent	eDNA negative – GCN absent	70% of pond sampled, high sediment in sample	Yes - pond not fully surveyed. HSI Excellent	Assumed GCN present, likely small population
P163	Average	Small population (peak count = 1)	Visit 6: pond too shallow to bottle-trap.	No - Sufficient bottle traps were deployed along shoreline to ensure data	Small population

Pond Ref	HSI	Survey Result	Constraints	Is this a limiting factor?	Revised Result
				validity	
P210	Poor	Small population (peak count = 1)	Visits 4 to 6: dense duckweed cover.	No - Sufficient bottle traps were deployed along shoreline to ensure data validity	Small population
P211	Poor	Positive eDNA but negative conventional survey	Only a small area was accessible safely to deploy bottles (visits 1 and 2). Pond inaccessible from visit 3 onwards.	No – Poor HSI	Assumed small population
P212	Average (estimated)	N/A	No access	Yes – No survey data	GCN assumed present
P213	Average (estimated)	N/A	No access	Yes – No survey data	GCN assumed present

Metapopulation 4 was determined to support a “**medium**” population size class considering the peak count of 11, the presence of ponds with medium populations and availability of linking terrestrial habitat. This metapopulation is also close to Theberton Woods County Wildlife Site which supports a significant GCN population.

Due to the suboptimal nature of the majority of the habitats within the site boundary at this location and the distance from the site of the GCN ponds supporting a medium population size class, a small population size class is considered a more appropriate representation of the sites affected habitats.

D1 Habitat impact tables

N.B: this section must identify impacts *in the absence of mitigation or compensation measures*. Refer to the *Great crested newt mitigation guidelines* for guidance in impact types (section 6).

Should you wish to convert ha to m² or m² to ha please [use this converter](#)

Total Area of Development (ha): 109.55

D1.1 Breakdown of terrestrial impacts

Permanent		Temporary	
Habitat type	Area lost (ha)	Habitat type	Area damaged (ha)
Broadleaved woodland	0.79	Broadleaved woodland	0.51
Scattered trees	0.3	Scattered trees	0.03
Scrub	0.39	Scrub	0.05
poor semi-improved / improved/ amenity grassland	1.16	poor semi-improved / improved/ amenity grassland	0.57
Neutral semi-improved grassland	0.53	Neutral semi-improved grassland	0.28
Tall ruderal	0.32	Tall ruderal	0.15
Arable	64.83	Arable	31.42
Standing water / Running water	0.07	Standing water / Running Water	0.07
Dry Ditch	0.14	Dry Ditch	0.05
Hard Standing/ Buildings	5.3	Hard Standing / Buildings	0.63
Total Loss	73.83	Total Damage	33.76

D1.2 Core, intermediate and distant terrestrial impacts

	Permanent	Temporary
	Area lost (ha)	Area damaged (ha)
Core (<50m from pond)	2.18	1.62
Intermediate (50-250m from pond)	38.33	18.99
Distant (>250m from pond)	33.32	13.15
Total (ha)	73.83	33.76

D1.3 Aquatic impacts

	Permanent		Temporary	
	Number lost	Area lost (m ²)	Number damaged	Area damaged (m ²)
GCN Ponds	4	291.3	0	0
Other Ponds	0	0	0	0
Total	4	291.3	0	0

Notes on terms in these tables:

- 'GCN ponds' must include all ponds or other waterbodies in which GCN were recorded plus any others that are likely to be used by GCNs for foraging e.g. suitable ponds / waterbodies where no GCN were recorded but with good connectivity to other ponds / waterbodies within the survey area found to support

D - Impact assmt

recorded but with good connectivity to other ponds / waterbodies within the survey area found to support GCNs.

- Area of ponds to be calculated by measuring or estimating extent at winter maximum.
- "Terrestrial habitat" here includes any land likely to be important to the local GCN population for foraging, resting, hibernating or dispersal. This means, for example, that even unvegetated or sparsely vegetated areas close to high quality newt ponds (within around 50m) should be included in impact assessments; this could apply to quarry floors, arable, cracked or damaged hard-standing and amenity grassland.
- Areas may be excluded from calculations if you assess that they are substantially isolated by barriers to dispersal and therefore highly unlikely to be used by newts; this may even include apparently high quality areas.
- Areas may also be excluded if you believe for any other reason that they are highly unlikely to be used by newts. **Please always explain why you have excluded certain areas below.**

If there are discrepancies in the areas in the tables below, please explain in the Impact text boxes below
D2 Pre- and mid-development impacts: descriptive text. Example: "Vegetation clearance and archaeological investigations in Area A would kill and injure newts, and damage core refuge sites, close to Pond 1. Moderate negative impact on population."

N.B. The permanent and temporary land take area (107.59ha) is smaller than the total area of development (109.55ha) as there are areas of retained vegetation (amounting to 1.96ha) along the scheme. The below paragraphs discuss the pre- and mid- development impacts for each metapopulation.

- Metapopulation 1 - No GCN breeding ponds will be lost or directly impacted by the Scheme in the short-term (construction phase) or long-term (operational phase). Temporary loss of arable situated within core zone of P031 and P035 for construction and temporary compound and permanent loss of arable and hedgerow associated with P040 and P041. This could damage foraging and resting sites and clearance could kill or injure GCN.
Predominately loss of arable beyond, with sectional loss of hedgerow habitats that are likely to provide connectivity between ponds within this metapopulation. This could kill/injure GCN.
The impacts above are likely to have a minor negative impact on metapopulation 2.
- Metapopulation 2 - Three GCN ponds will be lost (P120, P036 and P119); P036 and P119 will be reinstated following construction. Due to arable nature, resting places are limited to hedgerows/field boundaries but some woodland blocks in wider area. Habitat losses could damage foraging and resting sites and clearance could kill or injure GCN; pond loss will result in loss of confirmed/potential breeding sites and fragment P067.
The perceived 'source' of this metapopulation is situated within the pond cluster to the south so impacts above are considered likely to have a moderate negative impact on metapopulation 2.
- Metapopulation 3 - One GCN pond will be permanently lost (P164) to the carriageway. Resting places are again limited to hedgerows/field boundaries but habitat losses could damage foraging and resting sites and clearance could kill or injure GCN; pond loss will result in loss of potential breeding sites and fragment P066.

Permanent loss of broadleaved woodland and hedgerow habitat associated with P066 could kill or injure GCN.

The perceived 'source' of this metapopulation is situated within the pond cluster to the east and habitat losses associated with P066 are situated over 100m from the pond so impacts are considered likely to have a minor negative impact on metapopulation 3.

- Metapopulation 4 - No GCN breeding ponds will be lost or directly impacted by the Scheme. Permanent Loss of arable and hedgerow habitat within the core zone of P144 and P213 and permanent loss of broadleaved woodland and arable habitat within core zone of P058. Temporary loss of broadleaved woodland within the core zone of P058 and P145. This habitat loss could damage foraging and resting sites while veg clearance could kill newts.

Permanent and temporary loss of broadleaved woodland, hedgerow, scattered trees, scrub, ditch

D3 Long-term impacts: descriptive text (to always include fragmentation if applicable to scheme) .

Example:

"Construction of Plot 1 in Area B would kill and injure newts, destroy Pond 1 (a breeding site) and core terrestrial habitat, consisting of rough grassland and deciduous woodland, around Pond 1. Creation of play area in Area C would reduce grassland value for newts. Construction of Plot 1 would create significant dispersal barrier between Ponds 1 and 2. Serious negative impact on population."

- Metapopulation 1 – fragmentation by creating barriers between P035 and P031/P104, and P041 and P042.
- Metapopulation 2 – Fragmentation by creating a barrier between ponds south of the development and P067.
- Metapopulation 3 - Fragmentation by creating a barrier between P066 and P164.
- Metapopulation 4 - Fragmentation by creating a barrier between P058/P082/P145 and P142/P143/P144/P212/P213.

D4 Post-development interference impacts: descriptive text. Example: "Major increase in risk of fish and invasive aquatic plant introduction due to creation of large residential development adjacent to pond. Potentially serious negative impact on population."

The major risk of post development impacts is GCN capture with the road draining/gully pot network. This will be avoided by installation of permanent amphibian fencing or the use of an 'amphibian friendly' drainage solution such as filter drains.

D5 Other impacts: descriptive text. Example: "Reduced water table due to altered local hydrology when development is complete. Increased early pond desiccation, resulting in lower breeding success. Likely serious negative impact on population." impacts when creating any mitigation or compensation measures.

No other impacts are expected to occur

D5.2 Impact assessment map notes

Impact maps must be of a suitable scale to clearly show the following:

- The development site boundary
- 50m, 250m and 500m radii around each GCN pond boundary
- Temporary and permanent impacts and habitats affected (to include a key to show the habitat types).
- Fragmentation impacts and/or barriers to dispersal.

More than one map may be required for larger schemes.

NB: Impacts must be shown on FIG. D - ensure all habitats types that will be affected by the proposals and impacts on them (indicating whether temporary or permanent) are clearly indicated and 50m, 250m and 500m radii are shown around GCN ponds.

[See Sum & Figs. tab.](#)

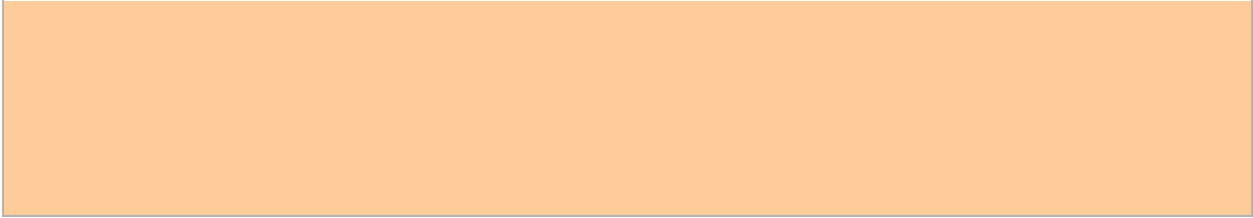
[Next section](#)

E1 The mitigation solution being proposed in the Method Statement should be the one that delivers the 'need' with the least impact on the newt population.

Please explain why this design was chosen over other potential solutions - set out what other mitigation proposals were considered and why they were not feasible, for example:

- if the proposal is to construct a new road and it will destroy breeding ponds, explain why it is not possible to retain the ponds in the proposed design etc; or,
- if a residential development results in a net loss of habitat, explain why it was not possible to reduce the housing footprint; or,
- if pond drain down is planned for the summer months when newts are breeding please explain why it is not possible to schedule this in, followed by pond destruction, in late September onwards; or
- if your proposal includes a non-standard approach to meeting the 'need'.

Additional Sheet E1 - The mitigation solution



E2 Receptor site selection. *NB: this relates to the place(s) where any captured newts will be released. It does not just refer to distant receptor sites or need to be the entire compensation area; where GCN will be placed must be clearly indicated on the relevant map. Enter details below unless no newts will be captured or displaced.*

NB: Location of the receptor site in relation to the development site must be provided on FIG. E2 see [Sum & Figs. tab](#)

E2.1 Existing GCN status at receptor site(s)

Great crested newts present; small population size class

E2.2 Survey information for receptor site if different from the survey for the application proposal.

Same as application proposal

E2.3 Receptor site locations. *Must include:* Please record further sites in [Additional Records tab](#)

Site name	OS grid ref eg AB12345678	Administration area - if different from development site	Distance from development site (m).
Please see Additional Sheet E1: The mitigation solution			

E2.4 Receptor site(s): ownership and land status. *Please note that any receptor site must be free from development proposals/threats.* [Additional records tab.](#)

Site name	Site Ownership	Conservation Designation?
Please see Additional		

E2.5 Receptor site: habitat description, size (ha) & adjacent land use. [Additional Records tab](#)

Site name	Habitat description	Size (ha)	Adjacent Land Use
Please see Additional Sheet E1: The mitigation solution			

E3 Habitat creation, restoration and/or enhancement

The left side of table below summarises the impacts you specified in section D. Enter the habitat creation, restoration and/or enhancement that will be undertaken to compensate for these impacts in the right hand column.

Should you wish to convert ha to m² or m² to ha please [use this converter](#)

Aquatic habitat	Impacts			Compensation		
	Effect	Number	Total Area (m ²)	Measure	Number	Total Area (m ²)
GCN ponds	Lost	4	291.3	Created	8	859.1
	Damaged	0	0	Restored / reinstated / enhanced	3	366

Terrestrial habitat	Impacts		Compensation	
	Area lost (ha)		Area gained (ha)	
	Permanent	Temporary	Created	Restored / reinstated / enhanced
Core	2.2	1.6	3.7	1.6
Intermediate	38.3	19.0	27.5	19.0
Distant	33.3	13.2	24.0	13.2
Totals	73.8	33.8	55.2	33.8

NB: All habitat creation, restoration and enhancement measures must be shown on FIG. E3.1 - see [Sum & Figs. tab](#)

If a net loss of habitat (ha) is proposed please provide in the text box below an ecological justification to explain why the habitat measures proposed are considered sufficient to compensate for the impacts of the development. Some reduction in terrestrial habitat area may be acceptable provided there is an appreciable increase in habitat quality.

73.8ha will be permanently lost to the development, 64.83ha of which is arable which is considered of negligible value to GCN. The creation of the SLR soft estate will result in the creation of 55.2ha habitat considered of value to GCN. There is therefore a net loss in terms of habitat area but the quality of the habitat that is being created is much higher than the arable that is being removed, includes more waterbodies (8 GCN mitigation ponds, 6 BNG ponds) and also includes 33 hibernacula and 62 refugia. This will provide more breeding and terrestrial habitat for GCN at a large scale and provide a new habitat corridor across a former arable landscape.

E3.1 Describe the creation, restoration or enhancement of aquatic habitats (include design and water body dimensions as per *mitigation guidelines* and waterbody location. Dimensions these will be included in any annexed licence issued).

NB: Only put timing of aquatic creation, restoration or enhancement in the timetable E6a.

Pond reference	Surface Area (m ²)	Max. Depth (m)	Design / enhancement measures and location
			See Additional Sheet E - Mitigation and Compensation.

E Mitigation & compensation (continued)

E3.2 Terrestrial habitat measures

State number/area/length of any terrestrial habitat measures. Leave blank if not applicable. *Dimensions of hibernacula are expected to be *at least* that recommended in the mitigation guidelines.

E - Mitign & compn

	Number/area (ha)/length**	
	Created	Reinstated / Restored / Enhanced
Hedgerow planting	15143.82	0
Grassland re-seeding	40.81	0.85
Grassland management (just for GCN)	40.81	0
Scrub planting	3.66	0.05
Woodland planting	9.28	0.54
Hibernacula creation*	33	0
Refuge creation	62	0

** Information must be consistent with Table E3.

Please describe management methods and explain any novel designs, non-standard proposals or techniques in the free text box below. Also describe any other terrestrial habitat measures, including locations & design.

(Confirm landowner agreement for these measures, if they are to be created on land outside of the applicant's

NB: Do not put in specific dates here; add these into E6a (separate document).

There is a significant amount of high quality habitat creation and enhancement occurring along the road and adjacent embankments as part of the scheme landscaping which is represented above. Upon completion of the works the Scheme soft estate areas that are not segregated by permanent amphibian fencing, will be seeded/planted and GCN will be able to utilise them. The land will be managed as part of the soft estate to meet road safety requirements going forward.

E3.3 Integration with roads and other hard landscapes.

Explain any measures you will take to integrate mitigation with roads and other hard landscapes. If you propose any connectivity measures, such as underpasses, please specify:

- Design (to include length, width, height and guide fencing)
- Monitoring (to include methodology and duration)
- Maintenance (to detail how long-term functionality of the underpass(es) and entrances will be ensured)

NB: Locations & details of any proposed connectivity measures must be provided on FIG. E3.3 - see:

[Sum & Figs. tab](#)

NB: If you have identified fragmentation as an impact this is something you should address.

Dispersal will be maintained across SLR as follows:

- Metapopulation 1 - installation of two culverts: CLV01 – situated between P035 and P031/P104; and

CLV02 – situated between P041 and P042

- Metapopulation 2 - installation of one culvert: CLV03 – situated the west of Mitigation Area 2 to maintain connectivity between P067 and the rest of metapopulation SLR03 (note that the railway corridor will also remain as a dispersal corridor).
- Remaining 'conflict areas' including Metapopulation 3 and 4 - the use of an "amphibian friendly" drainage feature that will permit movements across the road. As highlighted above, newt friendly features including dropped curbs and set-back gully pots will be used to increase permeability across the scheme. Planting and permanent amphibian are proposed to guide GCN through culverts.

E Mitigation & compensation (continued)

E4 Capture, exclusion & translocation: *Please do not refer to any dates in this section - these should be provided in E6.*

State capture +/- or exclusion methods, with effort levels.

[Pls Read Advice Notes](#)

	Use method? <i>Yes/no</i>	Minimum capture effort <i>(days)</i>
At pond: bottle-trap, net, hand search &/or drain down	Yes	90
At pond: ring-fence, pitfall trap (+ fence & refuges)	Yes	90
Away from pond: hand search	Yes	Other
Away from pond: destructive search	Yes	Other
Away from pond: fence, pitfall trap (& refuges)	Yes	30
Away from pond: night search	Yes	
Away from pond: exclusion fence only	Yes	
Other or additional method(s) - state below:		

Please refer to Additional Sheet E1 - The Mitigation Solution. Hand and destructive searches will be carried out as the primary means of removing GCN (i.e. no fencing or pitfall trapping will take place) in areas where the perceived importance of the habitats associated with that area is low for GCN or where conventional trapping is not possible. Where conventional methods are proposed, a minimum 30 days translocation programme will be enforced.

NB: • A minimum of 25 nights trapping will only be acceptable in exceptional circumstances which are fully

justified and explained. See [guidance on capture effort](#)

NB: Locations of all capture/exclusion activities must be shown on FIG. E4(a)
- Any non-standard capture/exclusion measures should be detailed on FIG. E4(b) - see H - Figures ta
- if timings of works are different for different meta-populations please separate out in your work schedule.

Briefly explain your capture/exclusion proposals, for example:

- Justify the use of non-standard methodologies and/or deviation from recommendations in the Great crested newt mitigation guidelines
- Explain differing capture effort in trapping compartments

NB: If a very complex capture operation is proposed the methodology should be explained in detail below.

Please refer to Additional Sheet E1-The Mitigation Solution.

E Mitigation & compensation (continued)

E5 Post-development site safeguard. Refer to Section 8.5 of the Great crested newt mitigation

E5.1 Habitat management & maintenance

Is any specific post-development habitat management and site maintenance planned?

Yes No If no, proceed to population monitoring section E5.2.

State which of the following habitat management operations will occur:

Aquatic vegetation management in water bodies	Yes
Clearance of shading tree or scrub cover around pond margins	Yes
Mowing, cutting or grazing of grassland	Yes
Desilting and clearance of leaf-fall	Yes
Woodland and scrub management	Yes
Other (state below)	

NB: Details of site management and maintenance should be shown on FIG. E5.1. - see "H Sum & Figs" tab.
Indicate which areas (including which ponds) the management and maintenance plan will apply to.

State which of the following site maintenance operations will occur:

Checking for fish presence, and removal through appropriate methods	Yes
Checking pond condition and remedial action as required	Yes
Checking for and removal of dumped rubbish	Yes
Reinstatement following fire, acute pollution or other major damage	Yes
Repair or replace fences	Yes
Maintain tunnel, underpass, guide fencing in good condition	Yes

Repair or replace interpretation boards	
Other (state below)	

State the period for which habitat management and maintenance plan will continue:

NOTE: A separate, detailed plan must also be attached if

- (a) population size class is large and impacts are moderate-high,
- (b) regionally important population and impacts are moderate-high,
- (c) losses of > 2 breeding water bodies on site supporting medium size class population, or
- (d) phased or multi-plot developments.

If your proposal meets one of the above (a - d), confirm that such a document is attached:

Yes No

Please note, if you have selected 'No', you are likely to receive a Further Information Request.

E5.2 Post-development population monitoring (refer to Section 8.5.2 of the *Great crested newt mitigation guidelines* and advice at beginning of this template).

NB: Details of ponds which will be monitored post development must be shown and referenced on FIG. E5.2.

[see Sum & Figs. tab](#)

NB: It is the licensee's responsibility to ensure that post development monitoring is carried out and that remedial action is taken if compensation measures are failing.

Is population monitoring required? Y/N

[Please refer to table in the post development monitoring advice section](#)

If no, proceed to section E5.3

Indicate timing and type of post-development population monitoring:

Timing (years post-devt):

Type of monitoring:

Specify which ponds will be monitored. Additionally, if your post-development monitoring proposals do not follow the GCNMG please provide your ecological justification below. Comments on monitoring period, methods or

The eight newly created GCN ponds, the reinstated P036, P165 and P119 and the following existing ponds within 100m of the site boundary (subject to land access agreement): Metapopulation 1 - P031, P035, P104, P040, P041 P042; Metapopulation 2 – P045, P166; Metapopulation 3 – P066, Metapopulation 4 – P081, P163, P051, P135, P210, P058, P144, P145, P213 and P082; and P130.

NB: A Natural England mitigation licence will not confer rights of access to monitor water bodies or other habitats which lie outside the licensee's ownership. Permission/s should be granted prior to applying for a licence. Please see Declaration section in worksheet I.

E5.3 Site safeguard

Mechanism(s) for site safeguard.

Is there a mechanism in place to secure site safeguard?..... Yes N/A

If N/A, please briefly explain why.

If yes, please confirm which apply to your

- i) Restrictive Covenant..... Yes
- ii) Clause to relinquish future development rights in S106 agreement..... Yes
- iii) NERC Act agreement..... Yes
- iv) Explicit recognition of site in local planning documents..... Yes
- v) Designation as County Wildlife Site or similar..... Yes
- vi) other.....

E - Mitign & compn

Please confirm that the receptor site and mitigation and / or compensation land is free from future development.

Yes

No

Note : if you state 'No' your application will almost certainly be rejected; provide justification below.

NOTE: A copy of any significant document, such as a Section 106 agreement, must be included with your application. It must be clear within any s106, or other legal document/agreement, where the specific reference to GCN is.

E6 Work Schedule

Please complete a separate [Work Schedule for Great crested newt Annexed Licence](#), and submit with your application.

[Next section](#)

F - Final post development Layout

F1 Final Post development Layout Figure F1 is required

NB: Please show the final layout on FIG. F1. - see "H and list of figures" below. This must show the final development layout and include ponds, buildings, roads, GCN tunnels, other mitigation or compensation measures, etc.

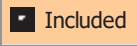
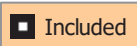
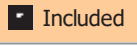

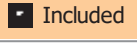
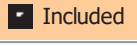
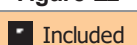

G - Checklist of Documents, figures, maps and diagrams to include

You must provide maps, photographs and diagrams to adequately explain the mitigation plans. Use the checklist below to understand what is required for your application. All maps and figures must be included as individual files. Additional maps, photos or diagrams should be included where necessary.

Map / Figure guidance: Ensure each map / figures includes the following:

- Site name and figure reference
- Scale bar and Direction of North
- Date DD/MM/YYYY

H - List of figures

Figure reference	Mandatory or not?	What it must show (also see details above on site reference, dating and naming).
Figure B1.1 	Yes , if the application is part of a phased or multi-plot development	Masterplan map showing the location of each individual phase or plot associated with the overall scheme. The phase to which the current application refers should be highlighted
Figure B1.2 	Yes , if there are other GCN mitigation projects nearby which might affect the target population	Map to show location of other nearby GCN mitigation sites to show development boundaries and compensation/mitigation areas.
Figure C3.2a 	Yes	Survey map to show development site location, survey area and ponds. The terrestrial and aquatic habitats described in sections C3.3 and C3.4 should also be shown. Indicate which ponds were found to support GCN, including specifying results of any eDNA sampling if relevant.
Figure C3.2b 	-	Aerial photograph of site for information only to help better inform the application.
Photos C3.4 	Yes	Photographs to show terrestrial and aquatic habitats on the development site and surrounding area (to include the receptor area).
Figure D 	Yes	Impact map to show the location and extent of the different habitat types to be temporarily and/or permanently lost/damaged (as detailed in section D of the Method Statement). Radii of 50, 250 and 500m around each GCN pond which will be impacted must be shown.
Figure E2 	Yes	Receptor site map to show the location of the receptor site(s) in relation to the development.
Figure E3.1 	Yes , if habitat creation, enhancement or restoration is proposed	Habitat measures map to show the location and extent of all terrestrial and aquatic habitat measures detailed in section E3 of the Method Statement).

F-G-H Sum & Figs

<p>Figure E3.3</p> <p><input checked="" type="checkbox"/> Included</p>	<p>Yes, if measures to improve connectivity are proposed</p>	<p>Connectivity map to show the location of any measures employed to improve connectivity e.g. underpasses/tunnels, new friendly traffic and /or drainage features (dropped kerbs/set-back gully pots) etc.</p>
<p>Figure E4a</p> <p><input checked="" type="checkbox"/> Included</p>	<p>Yes</p>	<p>Capture and exclusion map to show how GCNs will be cleared from the development site and prevented from entering during construction. A clear differentiation should be made between different types of amphibian fencing (e.g. permanent, temporary, perimeter, drift, ring, one-way etc). Direction of travel over one-way fences should also be shown.</p>
<p>Figure E4b</p> <p><input checked="" type="checkbox"/> Included</p>	<p>Yes, if non-standard measures are proposed</p>	<p>Non-standard capture and exclusion measures – diagrams or photographs to show designs/specifications.</p>
<p>Figure E5.1</p> <p><input checked="" type="checkbox"/> Included</p>	<p>Yes, if habitat management and maintenance is proposed</p>	<p>Post-development management and maintenance map to show the location and extent of the terrestrial and aquatic habitats to be managed and maintained in accordance with section E5.1 of the Method Statement. To include tunnels/underpasses/guide fencing if applicable. Ponds to be managed and maintained must be clearly referenced.</p>
<p>Figure E5.2</p> <p><input checked="" type="checkbox"/> Included</p>	<p>Yes, if monitoring has been proposed</p>	<p>Post-development monitoring map to show, and reference, all of the waterbodies to be monitored (as detailed in section E5.2 of the Method Statement). To include tunnel/underpass/guide fencing if applicable.</p>
<p>Figure F1</p> <p><input checked="" type="checkbox"/> Included</p>	<p>Yes</p>	<p>Final development layout map to show both the development layout (e.g. buildings, rail, roads) <u>and</u> all of the mitigation/compensation measures proposed (e.g. including ponds, tunnels, receptor areas)</p>

List of documents

Document	Mandatory or not?
Completed application form <input checked="" type="checkbox"/> Included	Yes
Completed method statement template <input checked="" type="checkbox"/> Included	Yes
Completed work schedule <input checked="" type="checkbox"/> Included	Yes
Figures - as stated above <input checked="" type="checkbox"/> Included	Yes
Separate Masterplan document <input checked="" type="checkbox"/> Included	Yes - if part of a phased or multi-plot development
Separate Habitat Management and Maintenance Plan <input checked="" type="checkbox"/> Included	<p>Yes - if:</p> <p>(a) population size class is large and impacts are moderate-high, or</p> <p>(b) regionally important population and impacts are moderate-high, or</p> <p>(c) losses of > 2 breeding water bodies on site supporting medium size class population, or</p> <p>(d) phased or multi-plot developments.</p>

List any other maps, photographs or diagrams attached:

[Next Section](#)

I - Declarations

Yes Re: E2: I confirm that relevant landowner consent/s has/have been granted to accept great crested newts onto land outside the applicant's ownership.

N/A

Yes Re: E3.1 and E3.2 – I confirm that landownership consent/s has/have been granted to allow the creation of the proposed habitat compensation (aquatic or terrestrial) on land outside the applicant's ownership.

N/A

Yes Re: E5.2 – I confirm that consent/s has/have been granted by the relevant landowner/s for monitoring and maintenance purposes, as set out in E5.2, on land outside the applicant's ownership.

N/A

Yes RE: E5.1 and E5.2 - I, the applicant, confirm that all habitat management, maintenance and monitoring detailed in section 5, and accompanying documents, will be undertaken.

N/A

Unsecured consents statement:

If you have been unable to secure consents for any of the four declarations please explain why and detail any plans you have in place to obtain the consent(s) or provide details of any right(s) or agreement(s) that will enable the lawful implementation of the proposed mitigation, compensation and monitoring. Important Note: Failure to provide the appropriate landowner consents means that the Method Statement is unlikely to meet the requirements for the FCS test to be met. It is therefore in your interest to ensure that the appropriate consents have been secured before applying for a licence.

[Return to beginning](#)

Additional Sheet E1: The mitigation solution

Overview

The mitigation solution developed for Great Crested Newts (GCN) on Sizewell Link Road (SLR) comprises a sequence of measures designed to capture individuals and render habitats within conflict areas unsuitable for re-occupation.

All planned capture of individual GCNs for the purpose of moving them away from an area of imminent works will only take place during February – November (inclusive) and with weather conditions suitable for the species to be active, and not torpid. Where hibernating or torpid animals are found unexpectedly, best practice methodology will be followed.

The biosecurity guidelines in Amphibian Disease Precautions: A guide for UK fieldworkers, ARG-UK Note 4 (available from www.arguk.org) will be observed by all licence users, and all persons capturing newts under this licence will follow the advice on welfare considerations for capture programmes in the 'Great Crested Newt Mitigation Guidelines'.

The majority of terrestrial habitat to be impacted by the SLR, whether temporarily or permanently, are of low value to GCN. The use of LP1 is proposed to provide a better outcome rather than following the conventional licensing route as the SLR will instead create additional habitats with the aim of significantly expanding and better connecting the existing population(s). This will be achieved through suitable terrestrial habitat creation along the SLR, and the creation and enhancement of ponds in strategic locations to consolidate known populations and provide 'stepping stones' for future expansion, bringing these metapopulations 'closer' together. Please refer to Figure E3.1 for habitat creation measures and E3.3 for annotations explaining how these will improve on the current baseline.

Essentially, the Scheme aims to maintain and improve the favourable conservation status of the local GCN population(s) by creating an extensive corridor of suitable terrestrial habitat for GCN in place of sub-optimal habitats that will be lost to development activities. Habitat creation is proposed to maintain habitat provisions locally (in the form of ponds, hibernacula and refugia). Further habitat creation (in the form of mitigation areas which also comprise additional ponds, hibernacula and refugia) is also proposed as 'compensation' for the use of LP1 and to ensure greater benefit to the GCN population(s).

To mitigate for the risk of death or injury to GCN during the construction period, a combination of exclusion: using temporary amphibian fencing (TAF - which will remain in place for the duration of construction), drift fencing (used to compartmentalise the capture and translocation areas and will remain in place until construction commences in that area), capture and translocation of GCN; and habitat manipulation will be undertaken.

A series of measures to maintain connectivity are also included. Measures for each of the impacted metapopulations are described below:

Metapopulation 1: P031, P032, P035, P040, P041, P042, P043, P068, P069, P104 and P107.

Habitat manipulation (i.e. using LP1), in place of conventional capture and relocation is proposed because the perceived population size is low (max adult count of 1) and the perceived importance of the habitats associated with SLR in this area is low (i.e. regularly ploughed arable fields and sections of three hedgerows). Thus, the effort required to implement a conventional capture and relocation approach is considered disproportionate to the number of animals anticipated to be present and the impact that the loss of these habitats will have on this population.

Any animals captured will be released within their nearest of the following two receptor sites: Receptor Site 1 (a retained hedgerow to the west of P035) or Receptor Site 2 (terrestrial habitats associated with P041). Following habitat clearance, one-way exclusion fencing will be installed to the north of P041, which will remain in place for the duration of construction work to prevent GCN accessing the construction site.

Metapopulation 2: P036, P045, P048, P067, P079, P119, P120, P121, P123, P124, P166 and P167

As per the GCN MG (EN, 2001), ponds P036, P119 and P120 would be ringed fenced and trapped out for a minimum of 90 days (i.e. subject to 5 clear nights). The ponds would also be subject to nightly funnel trapping and dip netting before being drained down (as per EN, 2001).

TAF and drift fencing will also be installed to enclose the habitats around these ponds. The hedgerow and field boundary hedgerows in this area have been compartmentalised and these areas will be trapped for 60 days. The other trapping compartments within this area (that comprise arable field) would be subject to 30 days trapping. Pitfall traps will be installed in all areas at a density of 80 per hectare.

It is proposed that, following the minimum 60 day trapping, drift fencing will only remain in place until construction activities require its removal (i.e. it will be removed when development commences in that area). Outer TAF will be used to create a barrier during construction (restricting movements into the site in this location), remaining in place for the duration of development, and will be installed with fencing 'ends' turned back at 45° for c.5m to deflect amphibians back towards their source pond; see Figure E4a.

Based on habitat quality and the anticipated migration/dispersal routes, it was considered that the effort required to implement a conventional capture and relocation approach beyond this area would be disproportionate to the number of animals anticipated to be present and the impact that the loss of these habitats will have on this population.

Any animals captured will be released within their nearest of the following two receptor sites: Receptor Site 3 (retained terrestrial habitats associated with the railway corridor between P045, P067 and P121), Receptor Site 4 (Mitigation Area 2).

Metapopulation 3: P062, P064, P065, P066, P126, P164, P171, P172 and P215

As per the GCN MG (EN, 2001), pond P164 would be ringed fenced and trapped out for a minimum of 90 days (i.e. subject to 5 clear nights). The ponds would also be subject to nightly funnel trapping and dip netting before being drained down (as per EN, 2001).

TAF will also be installed to enclose the section of woodland that falls within the site boundary to the north east of P066 which supported a medium population size class; this area will be trapped out for 60 days.

Both trapping areas will be supplemented with an extended area of one-way TAF that will remain in place throughout construction to restrict movements into the site from these locations.

Any animals captured will be released within their nearest of the following two receptor sites: Receptor Site 5 (the retained woodland to the north of P066) or Receptor Site 6 (Mitigation Area 3).

Metapopulation 4: P051, P052, P053, P058, P081, P082, P135, P136, P137, P140, P142, P143, P144, P145, P146, P147, P148, P163, P210, P211, P212 and P213.

A combination TAF and drift fencing is proposed to enclose the section of woodland that falls within the site boundary to the north of P210 (small population size class; thus, this area will be trapped out for 30 days) and the habitats situated between P144/P213 and P58/P145/P082 (medium population size class; thus, this area will be trapped out for 60 days).

Both trapping areas will be supplemented with an extended area of one-way TAF that will remain in place, along with the outer TAF from the trapping area, throughout construction to restrict movements into the site from these locations.

Any animals captured will be released within their nearest of the following three receptor sites: Receptor Site 8 (the retained woodland to the north of P210), Receptor Site 9 (retained woodland associated with P58) or Receptor Site 10 (the retained woodland associated with P213).

P130

Habitat manipulation (i.e. using LP1), in place of conventional capture and relocation is proposed because the perceived population size is low (max adult count of 3) and the perceived importance of the habitats associated with SLR in this area is low (i.e. regularly ploughed arable fields and sections of hedgerows that do not appear to connect the pond with other GCN ponds/suitable terrestrial habitat). Thus, the effort required to implement a conventional capture and relocation approach is considered disproportionate to the number of animals anticipated to be present and the impact that the loss of these habitats will have on this population.

Any animals captured will be released within Receptor Site 7 (a retained section of hedgerow to the north of P130). Following habitat clearance, one-way exclusion fencing will be installed to the north east of P130, which will remain in place for the duration of construction work to prevent GCN accessing the construction site.

No additional mitigation or compensation is proposed in this area.

Tool Box Talk

Before any works commence, all those persons involved with the licensable works will be briefed by way of a 'tool box talk'. The tool box talk would include guidance upon: GCN identification; what to do should GCN be found; good working practices; mitigation methods and measures for that area; and what is and is not permitted under the licence (including legal consequences of not adhering to the licence).

Habitat Manipulation

In broad terms, habitat manipulation comprises the phased, sequential and careful removal of vegetation followed by hand and destructive searches, to render habitats unsuitable for GCN by removing potential resting places. It is proposed as a sole method for the displacement of GCN and in conjunction with capture and translocation techniques to improve efficiency.

It is proposed as a sole technique to displace GCN in areas where: (a) the perceived suitability of terrestrial habitats for GCN is low and/or such small numbers of GCN are anticipated to be present that necessary effort associated with conventional trapping methods is considered disproportionate; and (b) where capture and translocation is not possible due to health and safety reasons and in the interest of maintaining access, such as suitable habitats situated adjacent to active roads and railway (the site boundary crosses the Saxmundham to Darsham railway line and the following roads: Main Road, Littlemoor Road, Fordley Road, Title Road, Hawthorn Road, Pretty Road, Moat Road, an unnamed road and Abbey Road).

The measures are intended to render habitats unsuitable for GCN, removing potential resting places. They are proposed for all habitats within 250m of a GCN pond (hereafter referred to as '**the mitigation area**'). However, some habitats (golf course, improved pasture and arable fields) are already maintained in an unsuitable condition for GCN and therefore vegetation removal and hand/destructive searches in these areas may not be necessary (providing current management regimes remain until construction begins).

Vegetation Removal

Vegetation within the **mitigation area** will be removed in two phases:

1. Vegetation would be cut to 150mm above ground level and removed from the works footprint, in conjunction with a hand search (see below for details). The area would then be left undisturbed for at least 24 hours. Clearance would be undertaken by hand tools or flail mounted attachments that do not require heavy machinery to be tracked over vegetation. Low-pressure vehicles may be used dependent on the ground conditions and at the discretion of a supervising Ecological Clerk of Works (ECoW).
2. Where vegetation remains dense, this would be cleared to ground level, with arisings removed. The area would again be left undisturbed for at least 24 hours.

Following at least 24 hours from the second phase of vegetation removal, soil stripping of the area would commence with arisings removed from the works footprint. Where necessary, this would be

undertaken in conjunction with a secondary hand search and destructive search (see below for details).

The working area would be maintained free of vegetation for the duration of the works.

Hand and Destructive Searches

Such activities would only be carried out by the ECoW. Hand searches comprise the dismantling and removal of potential refuges by hand. This would be undertaken during the first phase of vegetation removal and again prior to soil stripping to ensure any potential refugia obscured by vegetation is identified and removed.

Destructive searches comprise the careful stripping of potential refuge areas or habitat piles that could not be easily dismantled by hand (i.e. larger/heavier/partially buried/labour intensive refugia). Where possible, stripping of these areas would first be undertaken with use of non-mechanical hand tools, followed by machinery for any remaining areas.

Habitat Provision - Mitigation and Compensation

The table below summarises habitats lost within each metapopulation and defines the proposed habitat provisions to mitigate for these losses.

Metapopulation	Habitat Loss	Mitigation
1	Terrestrial habitat loss: predominately arable but partial loss hedgerows that may provide resting opportunities and support dispersal.	Creation of 4 hibernacula and 8 refugia (see below for specification): 2 and 4 to the north-east of P035 adjacent to a proposed attenuation basin and 2 and 4 to the west of P041 (respectively). Given the small size of this population, it is anticipated that the creation of these habitat piles alone, in proximity of the GCN ponds, is sufficient to maintain/increase the terrestrial habitat requirement of this metapopulation.
2	Terrestrial habitat loss: predominately arable but partial loss hedgerows and woodland that may provide resting opportunities and support dispersal. Aquatic habitat loss: P036, P119 and P120	Creation of 2 hibernacula and 4 refugia per new pond (12 and 24 refugia). Also creation of rough grassland, tree and shrub planting within Mitigation Areas 2 and 3. Creation of 6 ponds: one within Mitigation Area 2, three within Mitigation Area 3 and the reinstatement of P036 and P119 (post construction).
3	Terrestrial habitat loss: predominately arable but partial loss of woodland (associated with P066) that may provide resting opportunities and support dispersal. Aquatic habitat loss: P164	Creation of 2 hibernacula and 4 refugia per new pond and an additional 2 and 4 (respectively) as replacement for loss of woodland (6 and 12 refugia). Also creation of rough grassland within Mitigation Area 4. Creation of 2 ponds within Mitigation Area 4.
4	Terrestrial habitat loss: predominately arable but some improved pasture and partial loss hedgerows and woodland that may provide resting opportunities and support dispersal.	Creation of 6 hibernacula and 12 refugia: strategically placed along the soft estate to provide better resting/overwintering opportunities between the ponds within this metapopulation.
P130	Terrestrial habitat loss: predominately arable but partial loss hedgerows.	Creation of 1 hibernacula. Given the small size of this population and distance from site, it is anticipated that the creation of this hibernacula alone, in proximity of the GCN pond, is sufficient to maintain/increase the terrestrial habitat requirement of this population.

As per the requirements of LP1, greater benefit to the local population has been provided by the following compensatory measures:

- Creation of Mitigation Area 1 which includes 2 ponds, 4 hibernacula and 8 refugia within rough grassland on a currently arable area. The location of this Mitigation Area has been

specifically chosen to better connect Metapopulation 1 with Metapopulation 2 (see Figure E3.3).

- The dry pond P165 will be reinstated so that it is more suitable for GCN. This pond, along with the ponds created within Mitigation Areas 3 and 4 (see table above for details) will create a cluster of ponds that will better connect Metapopulations 2 and 3.
- Upon completion of the construction works an extensive landscaping programme would commence. Habitat creation as part of SLR includes extensive areas of woodlands, hedgerows, grasslands, scrub and a swale network that follows the entire route of the new road. These habitats, supplemented by the habitat created for mitigation above, and additional attenuation basins and non-GCN ponds that are proposed, would provide an extensive corridor that is considered to be of greater value for GCN than the habitats lost as part of the Project.

Fragmentation

Dispersal will be maintained across SLR as follows:

- Metapopulation 1 - installation of two culverts: CLV01 – situated between P035 and P031/P104; and CLV02 – situated between P041 and P042
- Metapopulation 2 - installation of one culvert: CLV03 – situated the west of Mitigation Area 2 to maintain connectivity between P067 and the rest of metapopulation SLR03 (note that the railway corridor will also remain as a dispersal corridor).
- Remaining 'conflict areas' including Metapopulation 3 and 4 - the use of an "amphibian friendly" drainage feature that will permit movements across the road. As highlighted above, newt friendly features including dropped curbs and set-back gully pots will be used to increase permeability across the scheme.

Planting and permanent amphibian are proposed to guide GCN through culverts.

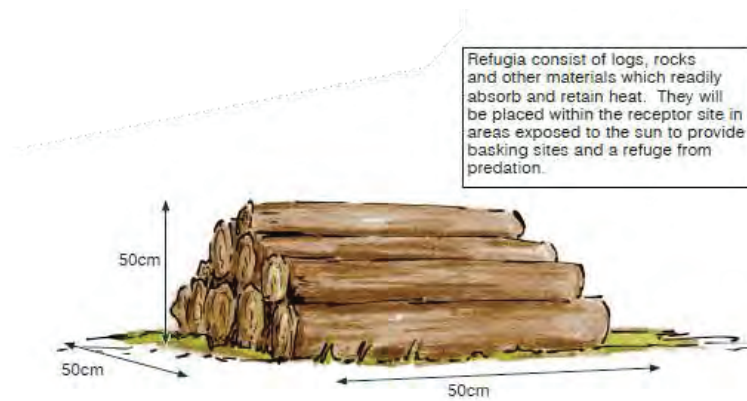
As described above, connectivity between metapopulations (internally and with each other) will be improved by creating suitable terrestrial habitat along both sides of the soft estate and the creation of strategically placed ponds and hibernacula/refugia.

Hibernacula and Refugia

Hibernacula and Refugia creation would be supervised by the licence holder or appointed agent. Refugia would comprise log and/or rubble piles of at least 1m³, as illustrated in Insert 1, below; Hibernacula would be installed as per the design within Design Manual for Roads and Bridges (Volume 10, Section 4, Part 7; LD 118; provided in Insert 2, below); however, they would be larger in area (at least 2m²).

Where possible arisings from habitat manipulation would be utilised for construction of these habitats. They would be created during the first phase of vegetation removal with soil arising from new pond construction or soil stripping used to finalise hibernacula construction.

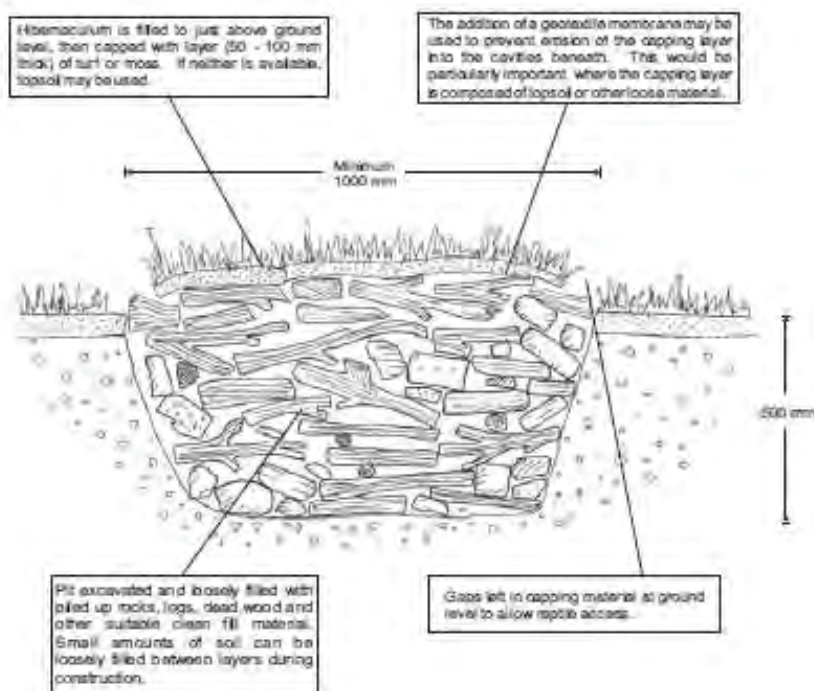
Insert 1: Indicative refugia design



Insert 2: Hibernacula design as per Design Manual for Roads and Bridges (HA 116/05)

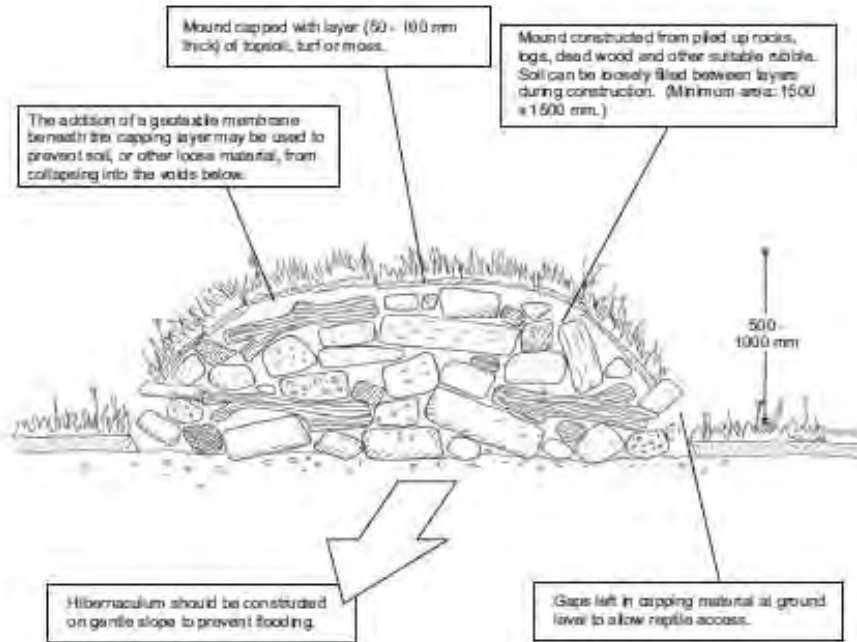
Hibernaculum on free-draining ground

Where ground conditions allow, the hibernaculum should be incorporated into a shallow pit. This design is more likely to remain frost-free, and will be less obtrusive and thus unlikely to be subject to interference.



Hibernaculum on impermeable ground

Where ground conditions are impermeable, then an 'above-ground' or mounded design should be utilised in order to prevent the hibernaculum from flooding. This design should also be used if it is not possible to excavate a pit for any other reason.



E2.3 & E2.4 Receptor site locations & Receptor site(s): ownership and land status.

Site name	OS grid ref eg AB12345678	Administration area - if different from development site	Distance from development site (m).	Site Ownership	Conservation Designation?
1		N/A	Within RLB	Applicant	No
2		N/A	Within RLB	Applicant	No
3		N/A	Within RLB	Applicant	No
4		N/A	Within RLB	Applicant	No
5		N/A	Within RLB	Applicant	No
6		N/A	Within RLB	Applicant	No
7		N/A	Within RLB	Applicant	No
8		N/A	Within RLB	Applicant	No
9		N/A	Within RLB	Applicant	No
10		N/A	Within RLB	Applicant	No

E2.5 Receptor site: habitat description, size (ha) & adjacent land use.

Site name	Habitat description	Size (ha)	Adjacent Land Use
1	A retained hedgerow to the west of P035	0.04	Arable with hedgerows
2	Terrestrial habitats associated with P041: hedgerow and woodland	0.1	Arable with hedgerows

3	Retained woodland and scrub terrestrial habitats associated with the railway corridor between P045, P067 and P121	0.69	Arable, railway corridor, woodland and hedgerows
4	Mitigation Area 2 - GCN pond, rough grassland, native tree/scrub planting and hibernacula and refugia	0.33	Arable and grazed pasture with hedgerows
5	Retained woodland to the north of P066	0.03	Woodland, hedgerows and arable
6	Mitigation Area 3 – three GCN ponds rough grassland, native tree/scrub planting and hibernacula and refugia	0.3	Arable with hedgerows
7	Retained section of hedgerow to the north of P130	0.04	Arable with hedgerows and farmland buildings and gardens
8	Retained woodland to the north of P210	0.11	Arable, woodland and hedgerows
9	Retained woodland associated with P58	0.15	Arable, woodland and hedgerows
10	Retained woodland associated with P213	0.20	Arable, grazed pasture, woodland and hedgerows



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- ASSOCIATED DEVELOPMENT SITE BOUNDARY
- BOUNDARY



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































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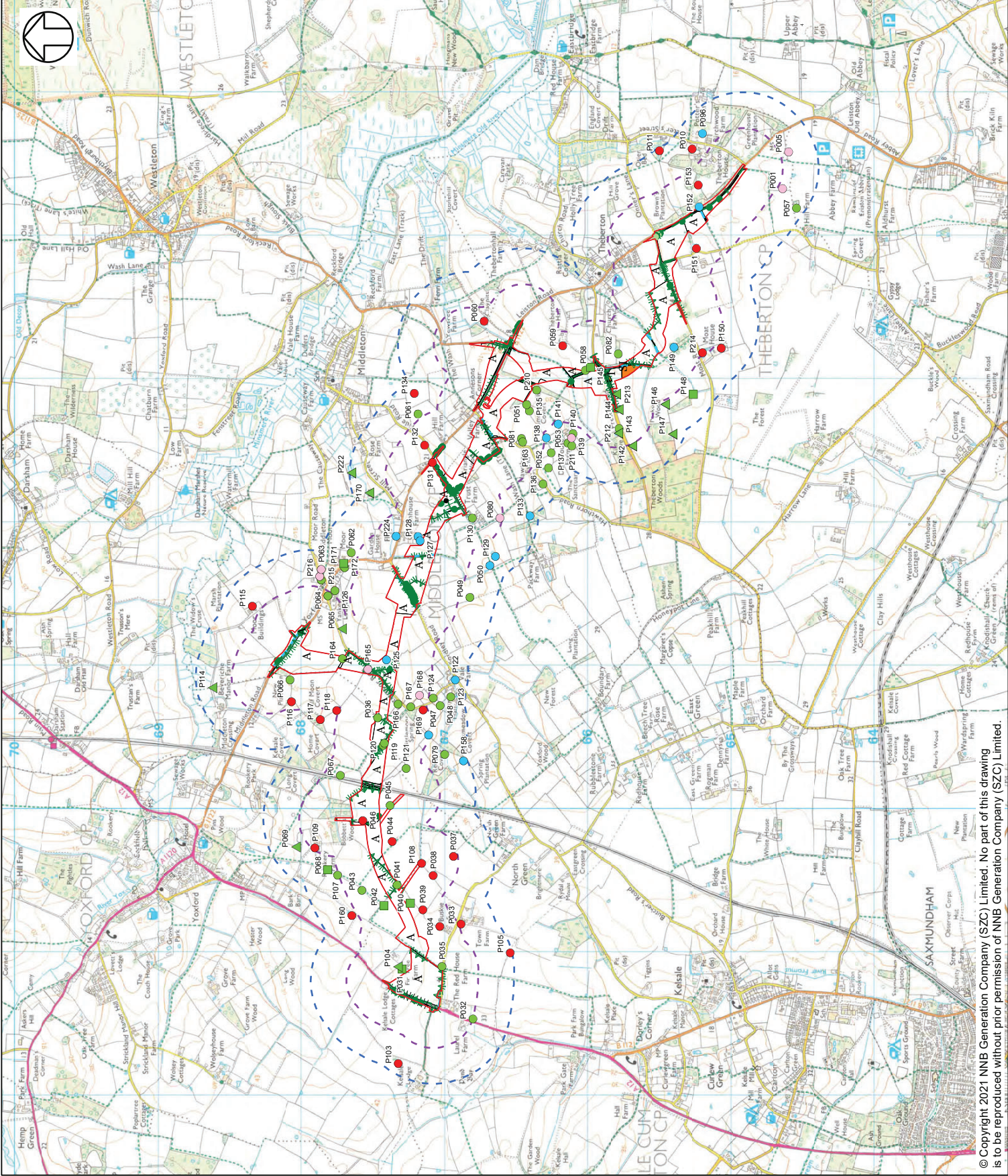
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KEY  250M RADI  500M RADI  GCN PRESENT (CONVENTIONAL SURVEYS)  GCN PRESENT (EDNA SURVEYS)  GCN ASSUMED PRESENT  GCN ABSENT (CONFIRMED AND ASSUMED)  SCOPED OUT  SCATTERED BROADLEAVED TREES  SCATTERED CONIFEROUS TREES  RUNNING WATER  INTACT HEDGE - NATIVE SPECIES-RICH  INTACT HEDGE - SPECIES-POOR  DEFUNCT HEDGE - NATIVE SPECIES-RICH  DEFUNCT HEDGE - SPECIES-POOR  HEDGE WITH TREES - NATIVE SPECIES-RICH  HEDGE WITH TREES - SPECIES-POOR  FENCE  DRY DITCH  EARTH BANK  BROADLEAVED WOODLAND - SEMI-NATURAL  BROADLEAVED WOODLAND - PLANTATION  SCRUB - DENSE/CONTINUOUS  SCRUB - NEUTRAL GRASSLAND - SEMI-IMPROVED  SCRUB - IMPROVED GRASSLAND  POOR SEMI-IMPROVED GRASSLAND  OTHER TALL HERB AND FERN - RUDERAL  STANDING WATER  RUNNING WATER  HARDSTANDING  ARABLE  NEW WOOD  AMENITY GRASSLAND  BUILDINGS	DEVELOPMENT SITE BOUNDARY 
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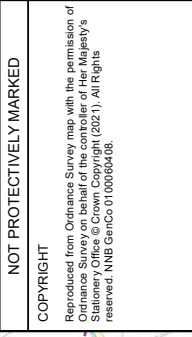
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- KEY**
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 - DEFUNCT HEDGE - SPECIES-POOR
 - HEDGE WITH TREES - NATIVE SPECIES-RICH
 - HEDGE WITH TREES - SPECIES-POOR
 - FENCE
 - DRY DITCH
 - BROADLEAVED WOODLAND - SEMI-NATURAL
 - BROADLEAVED WOODLAND - PLANTATION
 - SCRUB - DENSE/CONTINUOUS
 - SCRUB - DENSE/CONTINUOUS
 - NEUTRAL GRASSLAND - SEMI-IMPROVED
 - IMPROVED GRASSLAND
 - POOR SEMI-IMPROVED GRASSLAND
 - OTHER TALL HERB AND FERN - RUDERAL
 - STANDING WATER
 - RUNNING WATER
 - HARDSTANDING
 - ARABLE
 - AMENITY GRASSLAND
 - BUILDINGS

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PAGE 2 OF 4

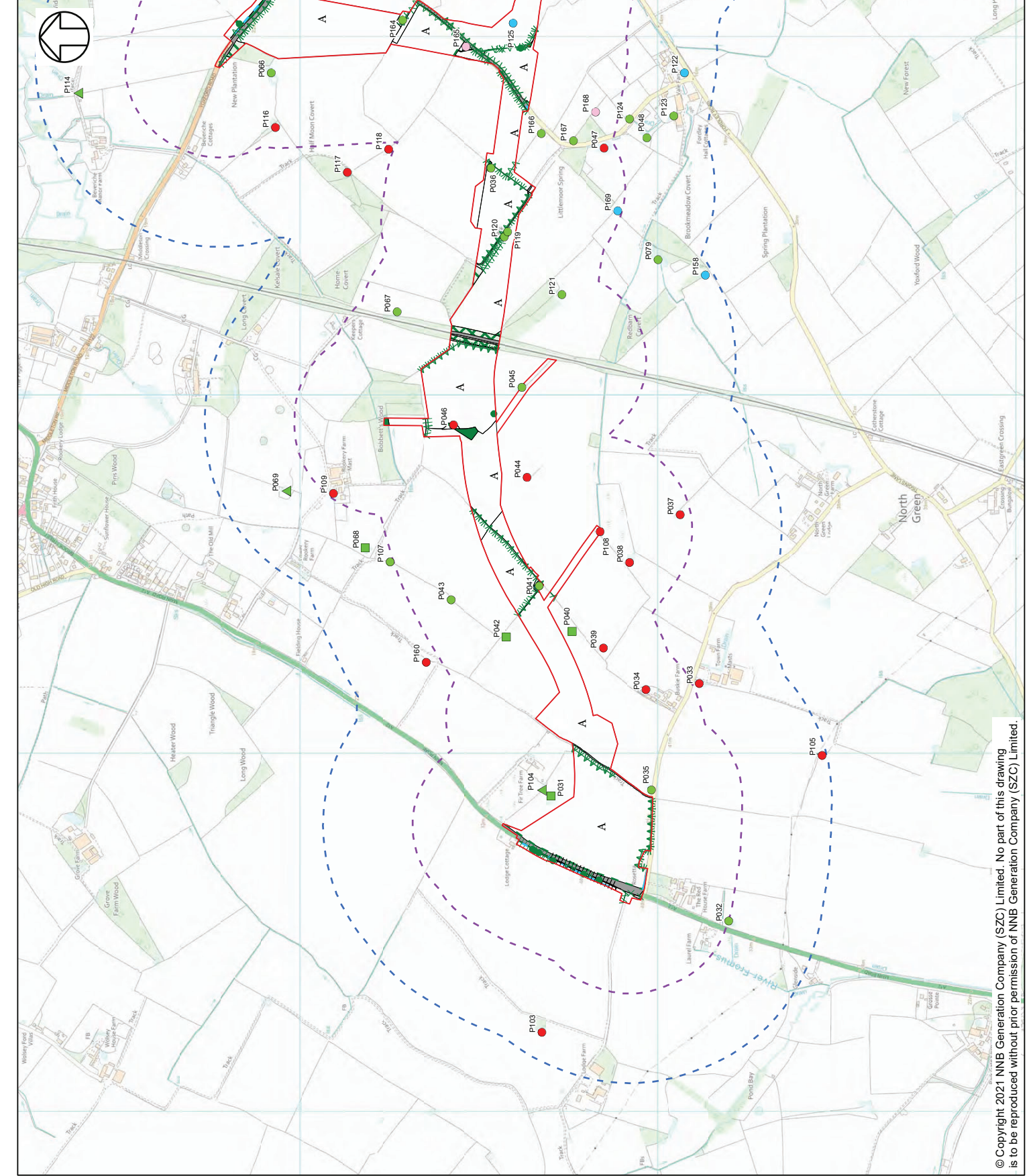
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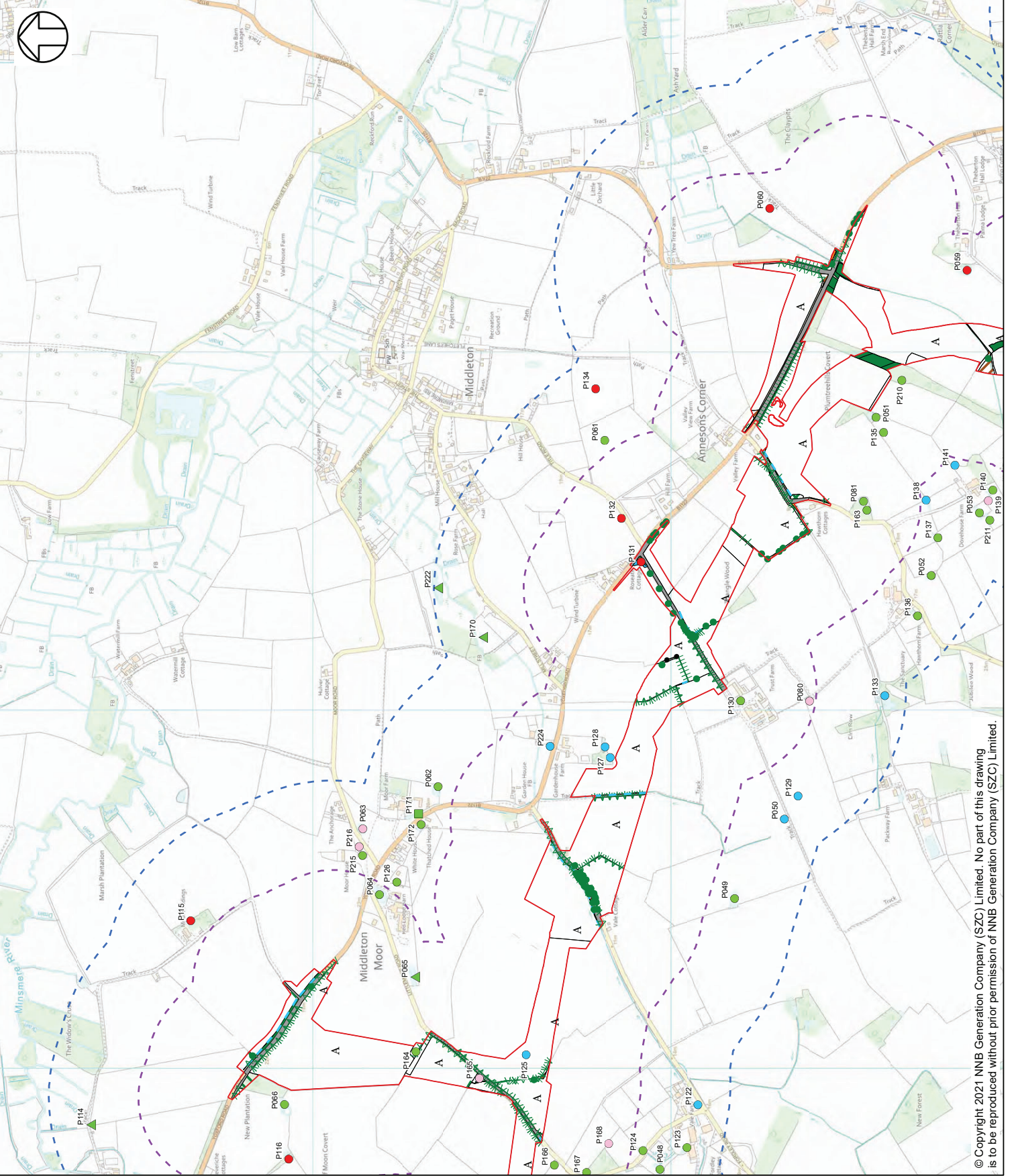
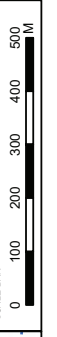
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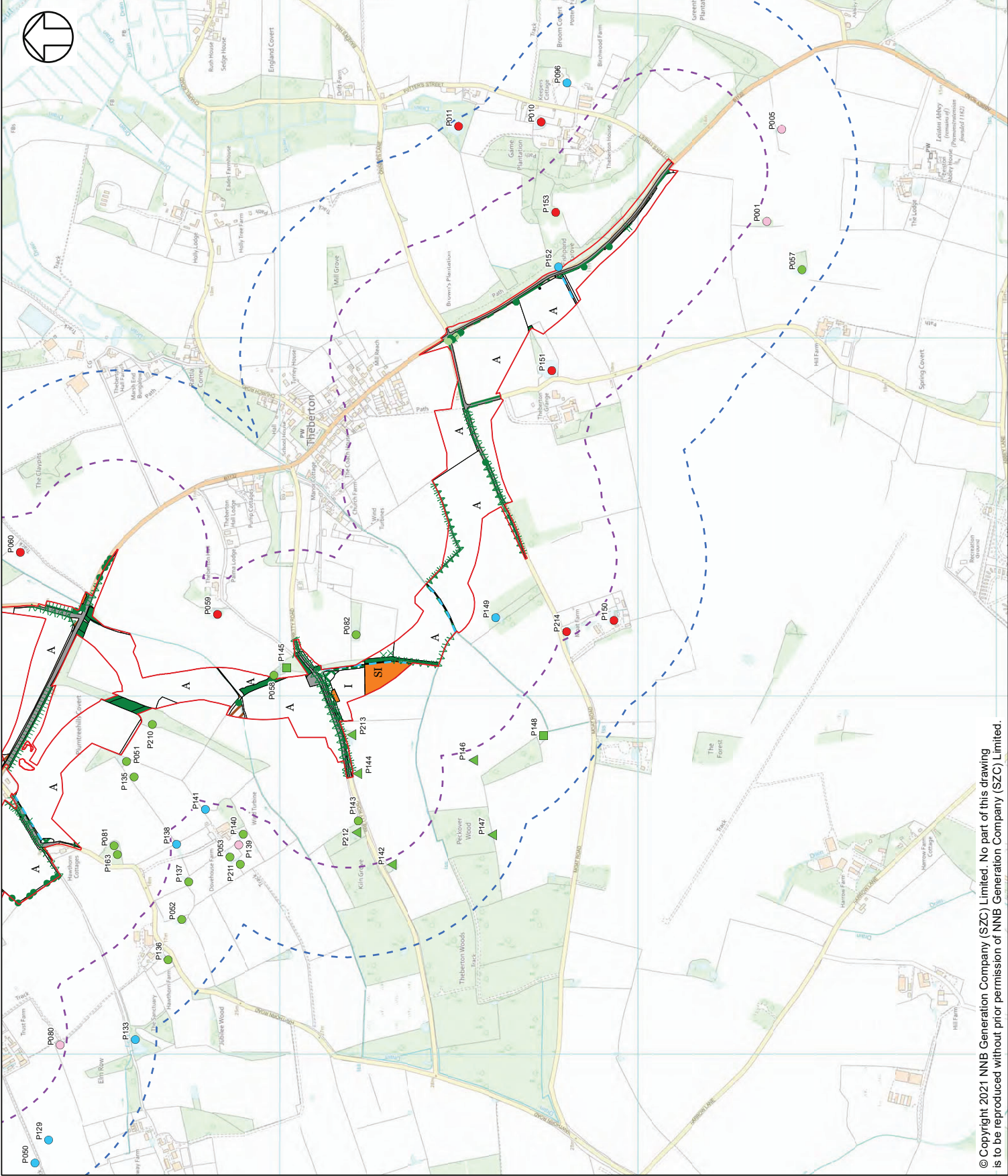
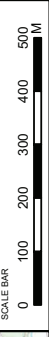
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	GON ABSENT (CONFIRMED AND ASSUMED)
	DRY PONDS
	SCOPED OUT

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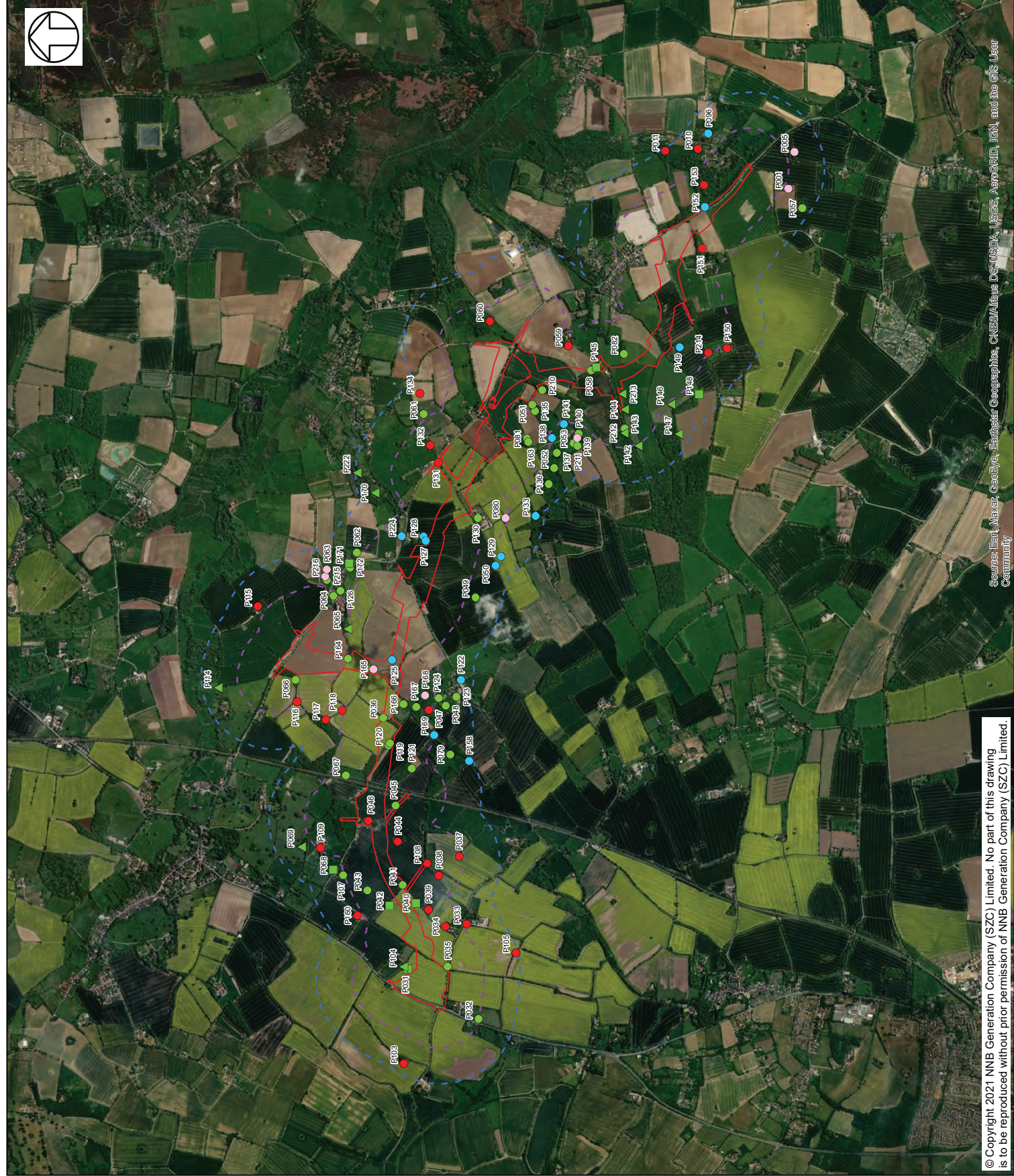
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KEY

- DEVELOPMENT SITE BOUNDARY
- 250M RADIUS
- 500M RADIUS
- GON PRESENT (CONVENTIONAL SURVEYS)
- GON PRESENT (EDNA SURVEYS)
- GON ASSUMED PRESENT
- GON ABSENT (CONFIRMED AND ASSUMED)
- DRY PONDS
- SCOPED OUT



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DOCUMENT:
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 SIZEWELL LINK ROAD GREAT CRESTED NEW
 LICENSING APPLICATION

DRAWING TITLE:
 SIZEWELL LINK ROAD GREAT CRESTED NEW
 AERIAL PHOTOGRAPH OF SITE

PAGE 2 OF 4

DRAWING NO:
 FIGURE C3.2B

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SCALE BAR
 0 100 200 300 400 500 M

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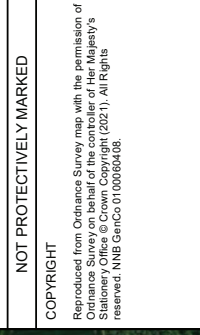
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	250M RADI
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	GON PRESENT (EDNA SURVEYS)
	GON ASSUMED PRESENT
	GON ABSENT (CONFIRMED AND ASSUMED)
	DRY PONDS
	SCOPED OUT



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PAGE 3 OF 4

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KEY

	DEVELOPMENT SITE BOUNDARY
	250M RADI
	500M RADI
	GN PRESENT (CONVENTIONAL SURVEYS)
	GN PRESENT (EDNA SURVEYS)
	GN ASSUMED PRESENT
	GN ABSENT (CONFIRMED AND ASSUMED)
	DRY PONDS
	SCOPED OUT



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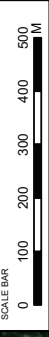
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 FIGURE C3.2B

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Figure C3.4 Photographs

Given the size of the Scheme photographs of every area all habitat loss are not included. However, a selection of photos is included in Table 1 below to illustrate the broad habitats on site. Example Pond Types within 500m of the Scheme are included in Table 2.

Table 1: Typical habitats

Photograph	Description
	<p>The landscape throughout the site is predominately arable dissected by hedgerows. Arable fields are considered largely unsuitable for great crested newts.</p>
	<p>Hedgerows dissect the site throughout the red line boundary. These provide connecting habitat between breeding ponds and moderate foraging habitat for great crested newts.</p>








Photograph	Description
	<p>Woodland blocks are present adjacent to the arable fields and in some cases within the site boundary. Moderate to good potential foraging and sheltering habitat for great crested newts.</p>

Table 2: Ponds to be impacted within the site boundary and example pond types within 500m of the Scheme

Photograph	Description
	<p>Pond P036 Within the site boundary located on the edge of arable field. Good HSI score. To be removed and reinstated.</p>

Photograph	Description
	<p>Pond P119</p> <p>Within the site boundary located within hedgerow in between two arable fields. Steep banks. Below Average HSI score. To be removed and reinstated.</p>
	<p>Pond P120</p> <p>Within the site boundary located within hedgerow in between two arable fields. Heavily shaded with dense algal growth. Poor HSI score. To be permanently removed.</p>

Photograph	Description
	<p>Pond P164</p> <p>Within the site boundary located on the edge of arable field. Average HSI score. To be permanently removed.</p>
	<p>Pond P051</p> <p>Within 250m of the site boundary. Pond within woodland with some shading. Good HSI score.</p>

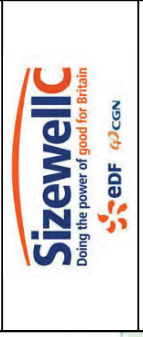
Photograph	Description
	<p>Pond P033</p> <p>Within 500m of the site boundary. Pond located in dense scrub adjacent to farm buildings. Very shaded by vegetation and Poor HSI score.</p>

KEY

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- GCN ASSUMED PRESENT
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- DRY PONDS
- SCOPED OUT
- 50 RADI
- 250 RADI
- 500 RADI
- PERMANENT LAND TAKE
- TEMPORARY LAND TAKE
- RETAINED HEDGEROWS
- RETAINED VEGETATION
- RETAINED POND
- SCATTERED BROADLEAVED TREES
- SCATTERED SCRUB
- RUNNING WATER
- INTACT HEDGE - NATIVE SPECIES-RICH
- INTACT HEDGE - SPECIES-POOR
- DEFUNCT HEDGE - SPECIES-POOR
- HEDGE WITH TREES - NATIVE SPECIES-RICH
- HEDGE WITH TREES - SPECIES-POOR
- FENCE
- DRY DITCH
- BROADLEAVED WOODLAND - SEMI-NATURAL
- BROADLEAVED WOODLAND - PLANTATION
- SCRUB - DENSE/CONTINUOUS
- NEUTRAL GRASSLAND - SEMI-IMPROVED
- IMPROVED GRASSLAND
- POOR SEMI-IMPROVED GRASSLAND
- OTHER TALL HERB AND FERN - RUDERAL
- STANDING WATER
- RUNNING WATER
- HARDSTANDING
- ARABLE
- AMENITY GRASSLAND
- BUILDINGS

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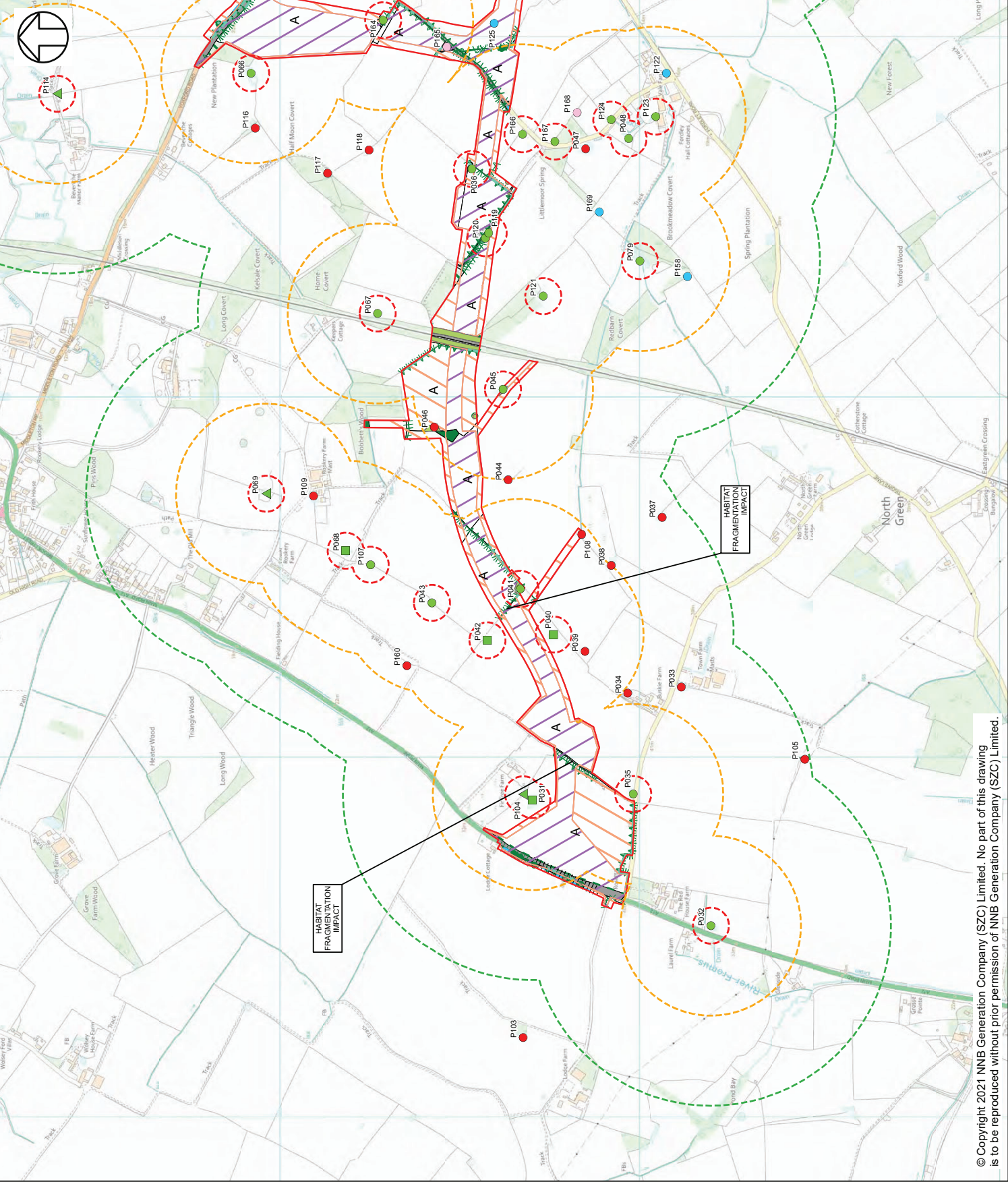
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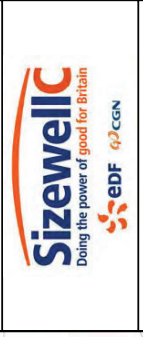
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	GCN PRESENT (EDNA SURVEYS)
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	GCN ABSENT (CONFIRMED AND ASSUMED)
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	SCOPED OUT
	50 RADI
	250 RADI
	500 RADI
	PERMANENT LAND TAKE
	TEMPORARY LAND TAKE
	RETAINED HEDGEROWS
	RETAINED VEGETATION
	RETAINED POND
	SCATTERED BROADLEAVED TREES
	SCATTERED SCRUB
	INTACT HEDGE - NATIVE SPECIES-RICH
	INTACT HEDGE - SPECIES-POOR
	DEFUNCT HEDGE - SPECIES-POOR
	HEDGE WITH TREES - NATIVE SPECIES-RICH
	HEDGE WITH TREES - SPECIES-POOR
	DRY DITCH
	EARTH BANK
	BROADLEAVED WOODLAND - SEMI-NATURAL
	BROADLEAVED WOODLAND - PLANTATION
	SCRUB - DENSE/CONTINUOUS
	SCRUB - NEUTRAL GRASSLAND - SEMI-IMPROVED
	IMPROVED GRASSLAND
	POOR SEMI-IMPROVED GRASSLAND
	OTHER TALL HERB AND FERN - RUDERAL
	STANDING WATER
	RUNNING WATER
	HARDSTANDING
	ARABLE
	AMENITY GRASSLAND
	BUILDINGS

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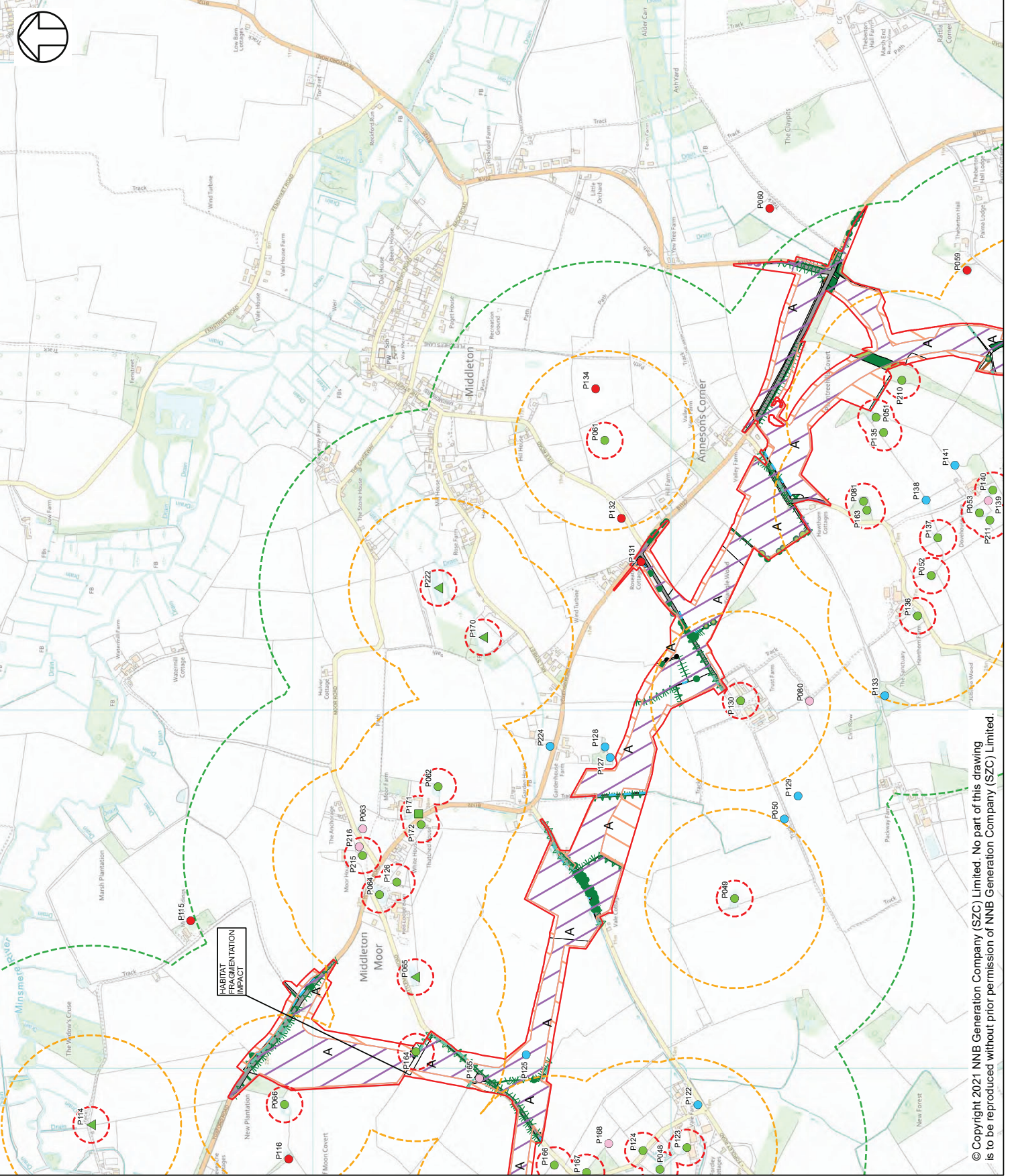
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- GCN ABSENT (CONFIRMED AND ASSUMED)
- DRY PONDS
- SCOPED OUT
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- 250 RADI
- 500 RADI
- PERMANENT LAND TAKE
- TEMPORARY LAND TAKE
- RETAINED HEDGEROWS
- RETAINED VEGETATION
- SCATTERED BROADLEAVED TREES
- SCATTERED CONIFEROUS TREES
- SCATTERED SCRUB
- INTACT HEDGE - NATIVE SPECIES-RICH
- INTACT HEDGE - SPECIES-POOR
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- STANDING WATER
- RUNNING WATER
- HARDS/STANDING
- ARABLE
- AMENITY GRASSLAND
- BUILDINGS

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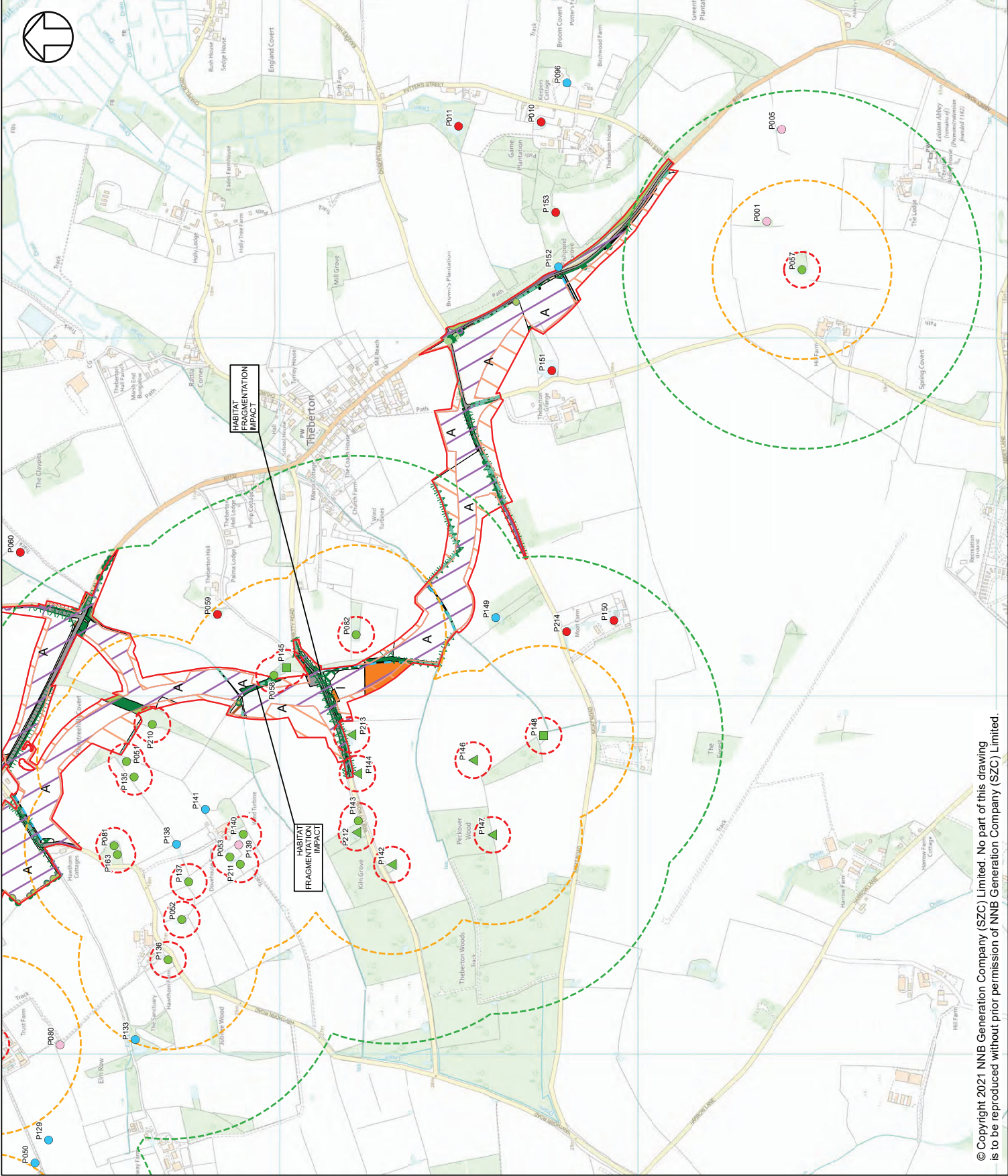
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	GCN PRESENT (EDNA SURVEYS)
	GCN ASSUMED PRESENT
	GCN ABSENT (CONFIRMED AND ASSUMED)
	DRY PONDS
	SCOPED OUT
	50 RADI
	250 RADI
	500 RADI
PERMANENT LAND TAKE	
TEMPORARY LAND TAKE	
RETAINED HEDGEROWS	
RETAINED VEGETATION	
RETAINED POND	

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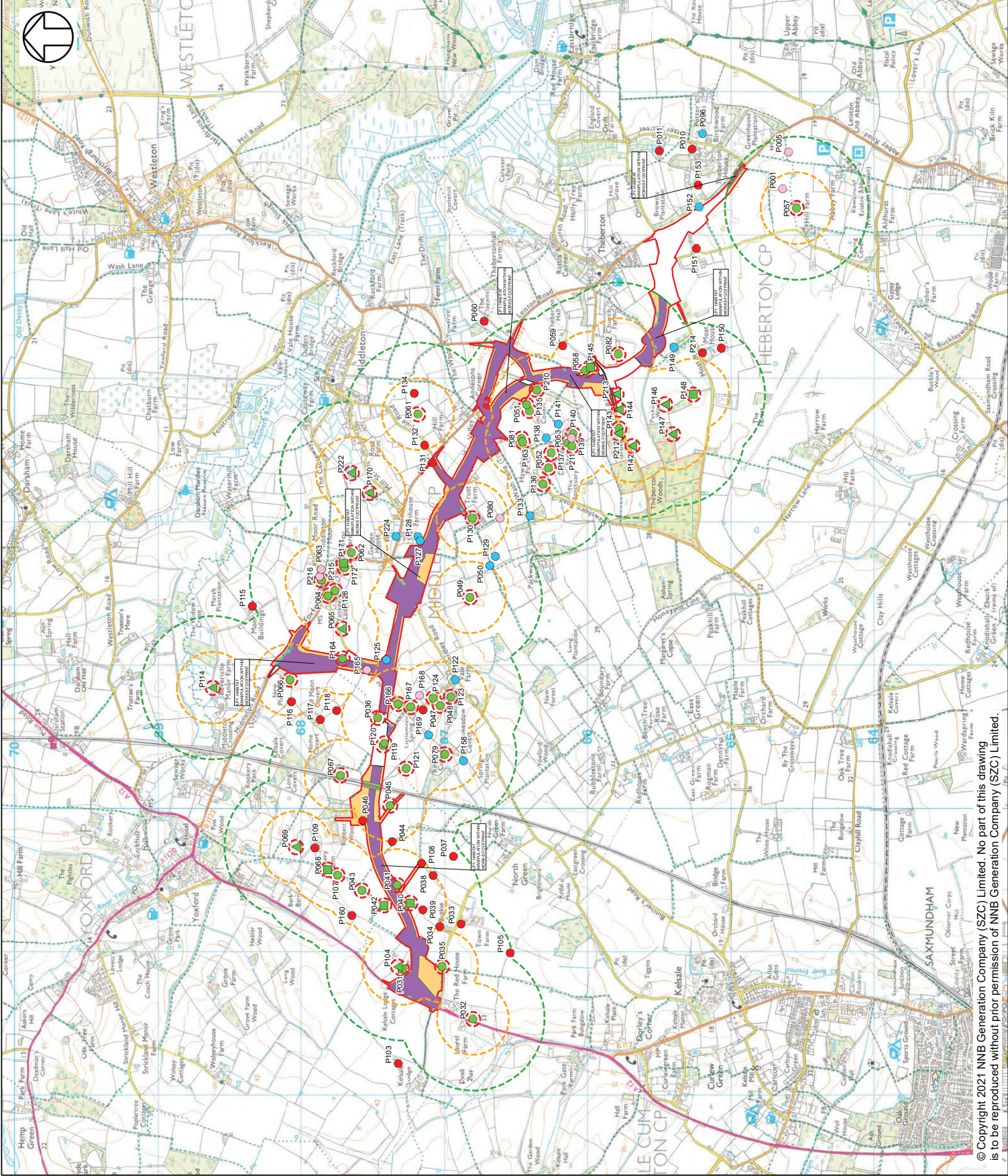
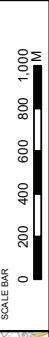


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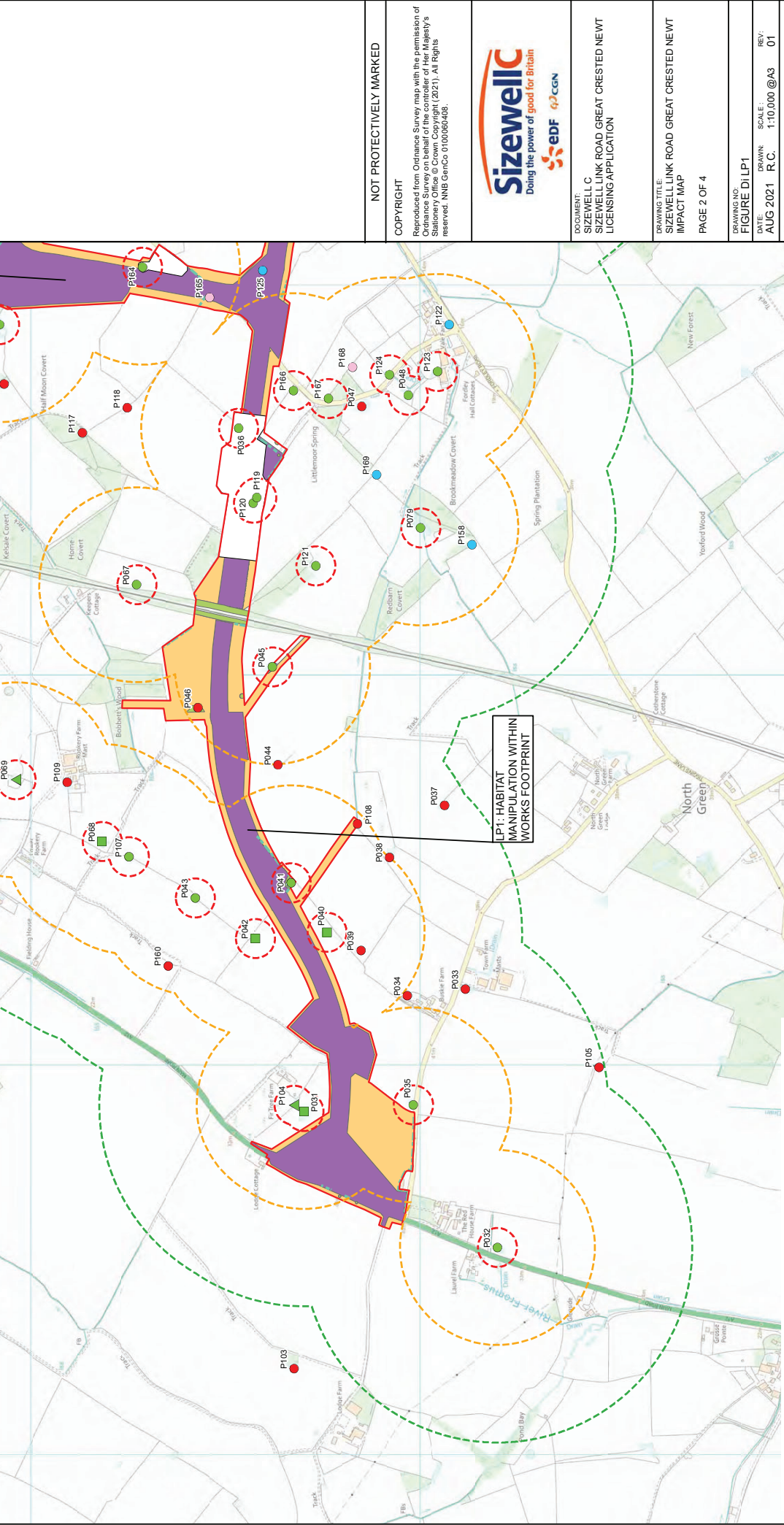


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- 50 RADI
- 250 RADI
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- PERMANENT LAND TAKE
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- RETAINED HEDGEROWS
- RETAINED VEGETATION
- RETAINED POND

LP1: HABITAT MANIPULATION WITHIN WORKS FOOTPRINT



LP1: HABITAT MANIPULATION WITHIN WORKS FOOTPRINT

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- 50 RADIi
- 250 RADIi
- 500 RADIi
- PERMANENT LAND TAKE
- TEMPORARY LAND TAKE
- RETAINED HEDGEROWS
- RETAINED VEGETATION

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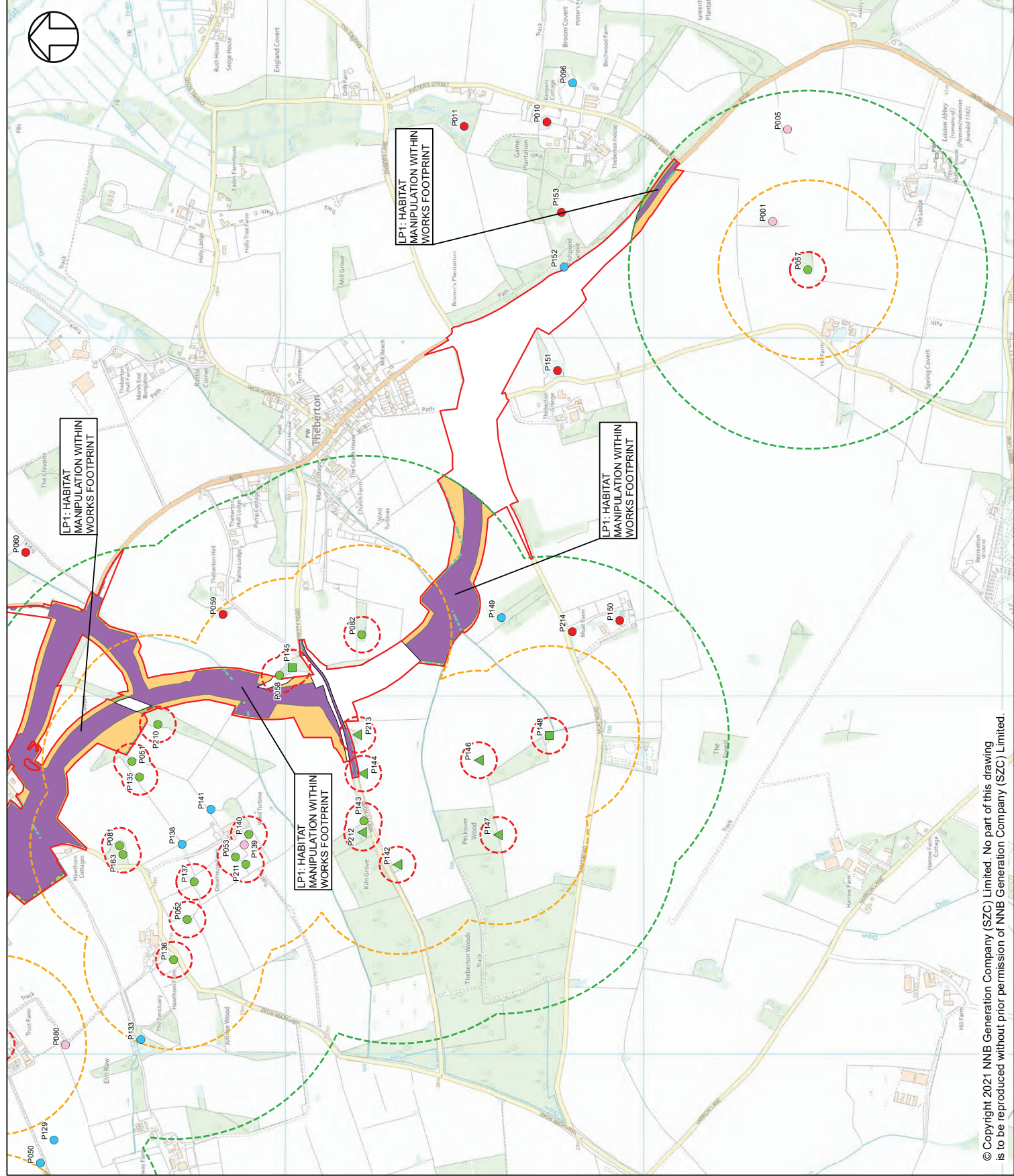
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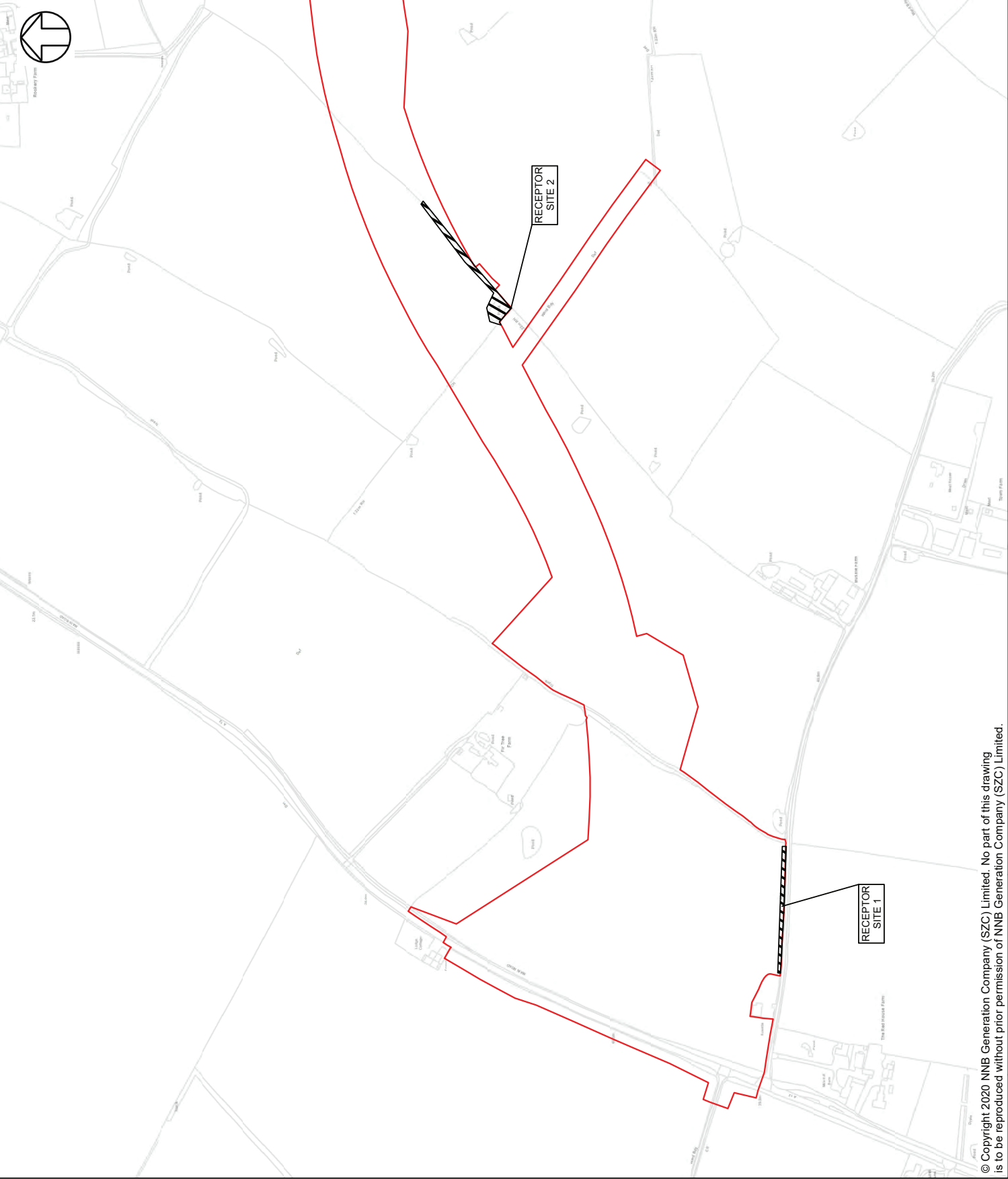
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 FIGURE E2
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 SHEET 2 OF 8

DRAWING NO.:
FIGURE E2

DATE: AUG 2021
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KEY

- DEVELOPMENT SITE BOUNDARY
- RECEPTOR SITES



RECEPTOR SITE 3

RECEPTOR SITE 4

RECEPTOR SITE 6

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SHEET 3 OF 8

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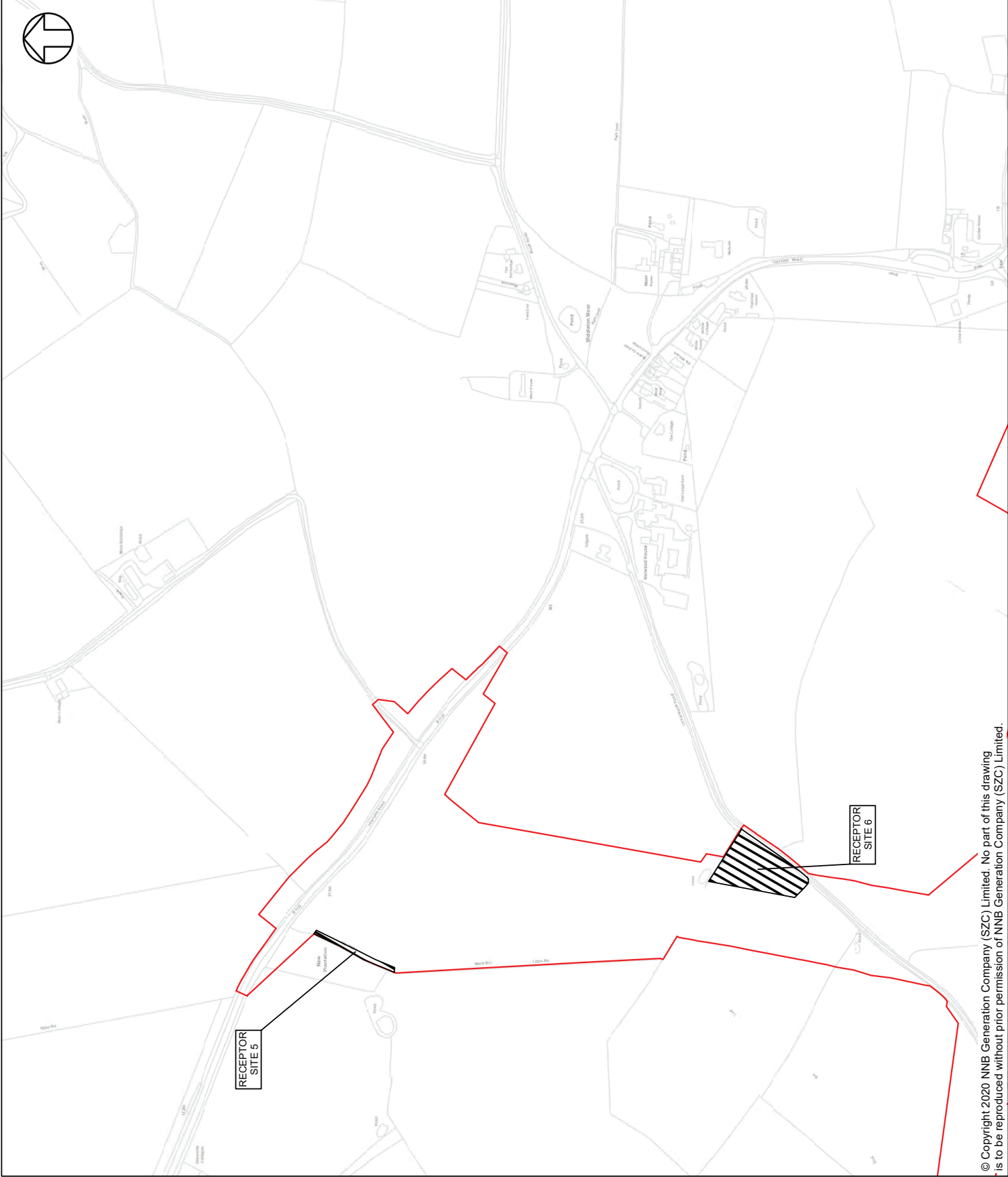
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KEY

DEVELOPMENT SITE BOUNDARY

RECEPTOR SITES



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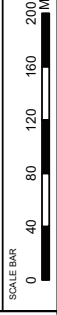


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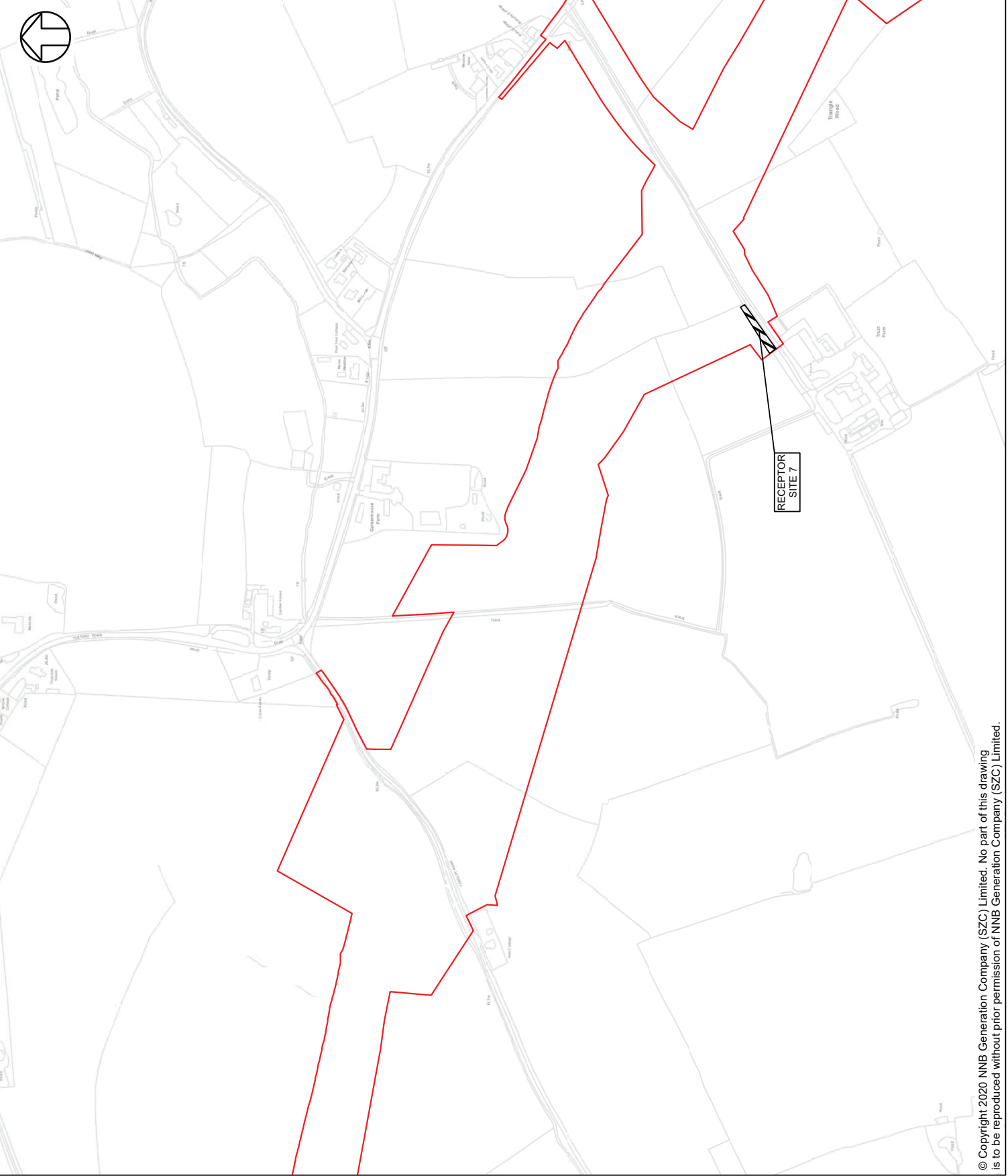
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KEY

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- RECEPTOR SITES



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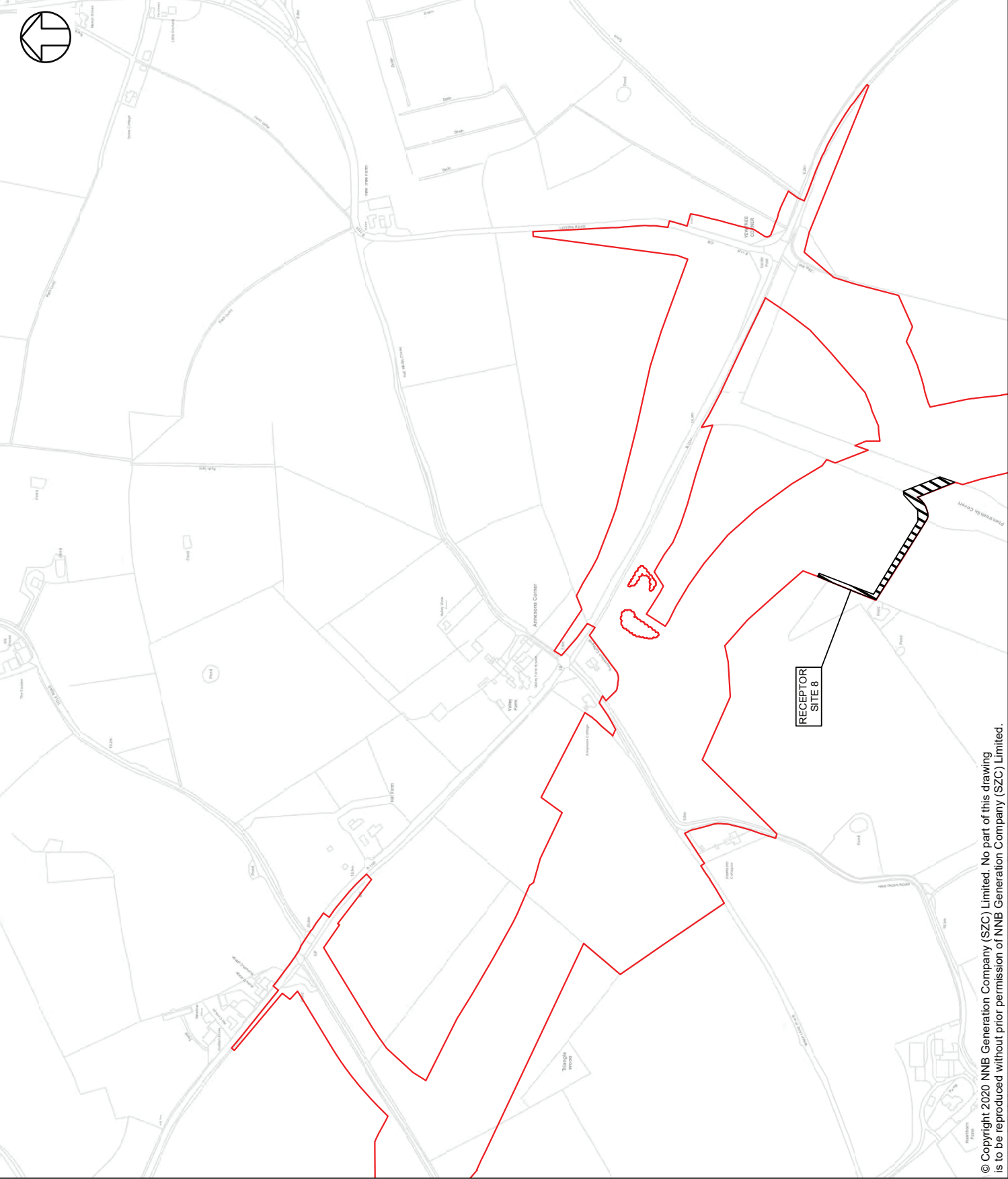
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KEY

DEVELOPMENT SITE BOUNDARY



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SHEET 8 OF 8

DRAWING NO.:
FIGURE E2

DATE: AUG 2021
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SCALE: 1:4,000 @A3



- KEY**
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 - GCN PRESENT (EDNA SURVEYS)
 - GCN ASSUMED PRESENT
 - 250M RADI
 - 250M RADI OF MITIGATION PONDS
 - INDICATIVE POND FOR GREAT CRESTED NEWT MITIGATION
 - INDICATIVE POND FOR BIODIVERSITY NET GAIN
 - EXISTING POND TO BE REINSTATED UPON THE COMPLETION OF CONSTRUCTION WORKS
 - GRASSLAND
 - NATIVE TREE AND SHRUB PLANTING
 - INDICATIVE ATTENUATION BASIN
 - INDICATIVE SWALE
 - RETAINED HEDGEROWS
 - PROPOSED HEDGEROWS
 - MITIGATION AREAS
 - PROPOSED REFUGIA
 - PROPOSED HIBERNACULA

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 HABITAT MEASURES MAP

SHEET 1 OF 8

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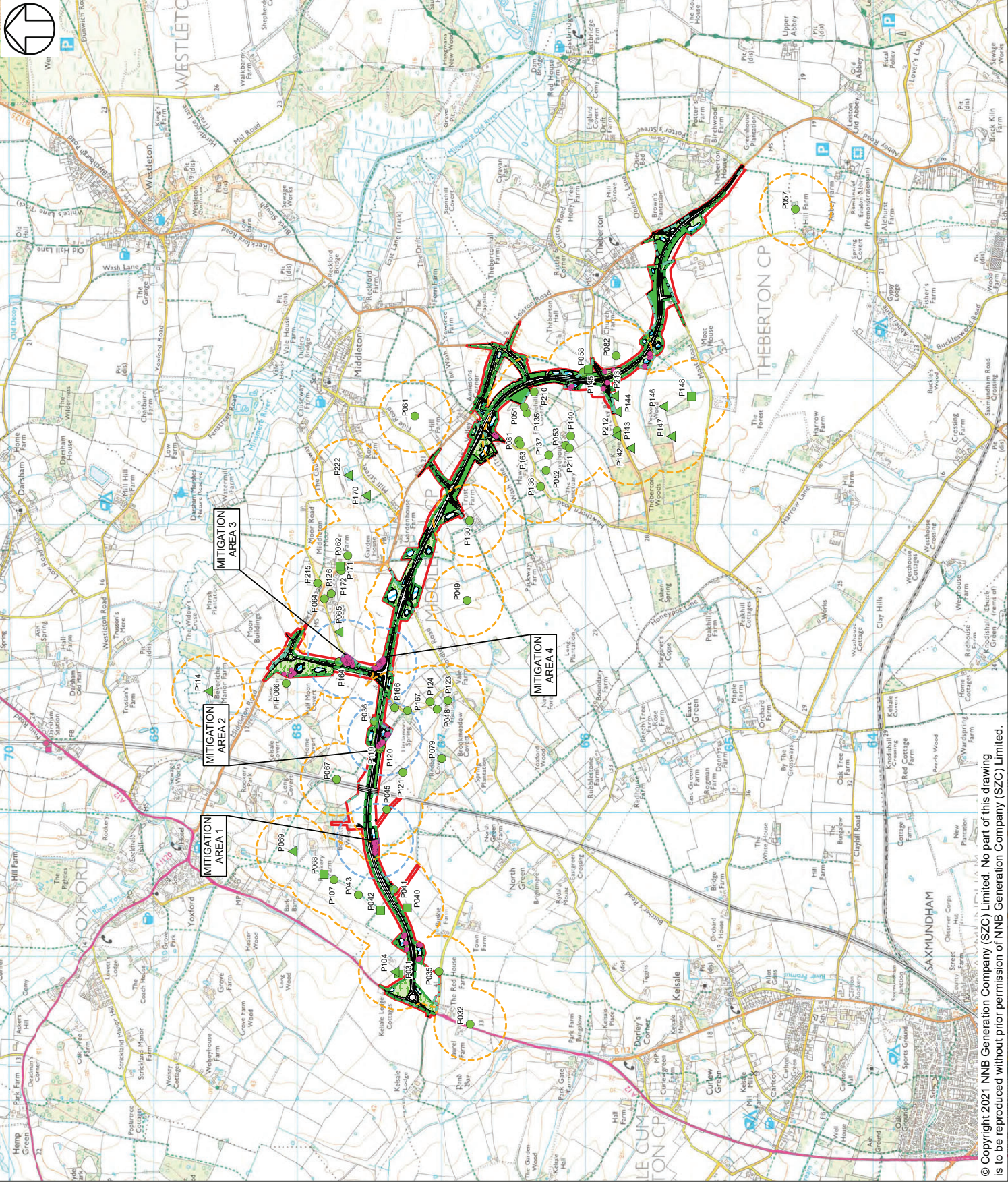
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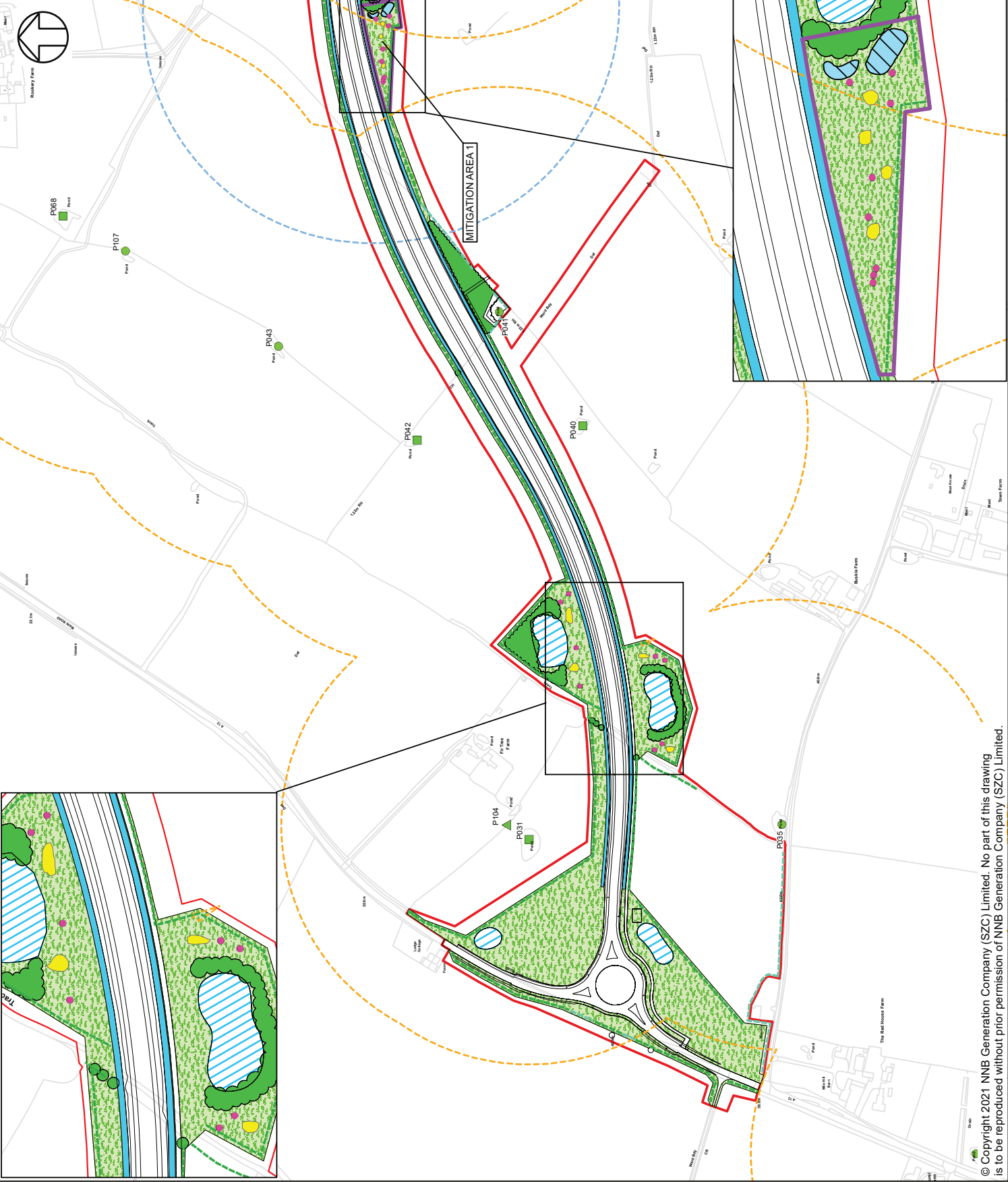
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 R.C.

SCALE BAR
 0 250 500 750 1,000 1,250 METRES



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- KEY**
- SIZEWELL LINK ROAD DEVELOPMENT
 - SITE BOUNDARY
 - GCN PRESENT (CONVENTIONAL SURVEYS)
 - GCN PRESENT (EDNA SURVEYS)
 - GCN ASSUMED PRESENT
 - 250M RADI
 - 250M RADI OF MITIGATION PONDS
 - INDICATIVE POND FOR GREAT CRESTED NEWT MITIGATION
 - GRASSLAND
 - NATIVE TREE AND SHRUB PLANTING
 - INDICATIVE ATTENUATION BASIN
 - INDICATIVE SWALE
 - RETAINED HEDGEROWS
 - PROPOSED HEDGEROWS
 - MITIGATION AREAS
 - PROPOSED REFUGIA
 - PROPOSED HIBERNACULA



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DOCUMENT:
 SIZEWELL C
 SIZEWELL LINK ROAD GREAT CRESTED NEWT
 LICENSING APPLICATION

DRAWING TITLE:
 HABITAT MEASURES MAP
 SHEET 2 OF 8

DRAWING NO:
 FIGURE E3.1
 DATE:
 AUG 2021
 SCALE:
 R.C.
 SCALE BAR
 0 40 80 120 160 200
 M

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- KEY**
- ▬ SIZEWELL LINK ROAD DEVELOPMENT
 - ▭ SITE BOUNDARY
 - ▭ CON PRESENT (CONVENTIONAL SURVEYS)
 - ▭ 250M RADII
 - ▭ 250M RADII OF MITIGATION PONDS
 - ▭ INDICATIVE POND FOR GREAT CRESTED NEWT MITIGATION
 - ▭ EXISTING POND TO BE REINSTATED UPON THE COMPLETION OF CONSTRUCTION WORKS
 - ▭ GRASSLAND
 - ▭ NATIVE TREE AND SHRUB PLANTING
 - ▭ INDICATIVE ATTENUATION BASIN
 - ▭ INDICATIVE SWALE
 - ▭ RETAINED HEDGEROWS
 - ▭ PROPOSED HEDGEROWS
 - ▭ MITIGATION AREAS
 - ▭ PROPOSED REFUGIA
 - ▭ PROPOSED HIBERNACULA

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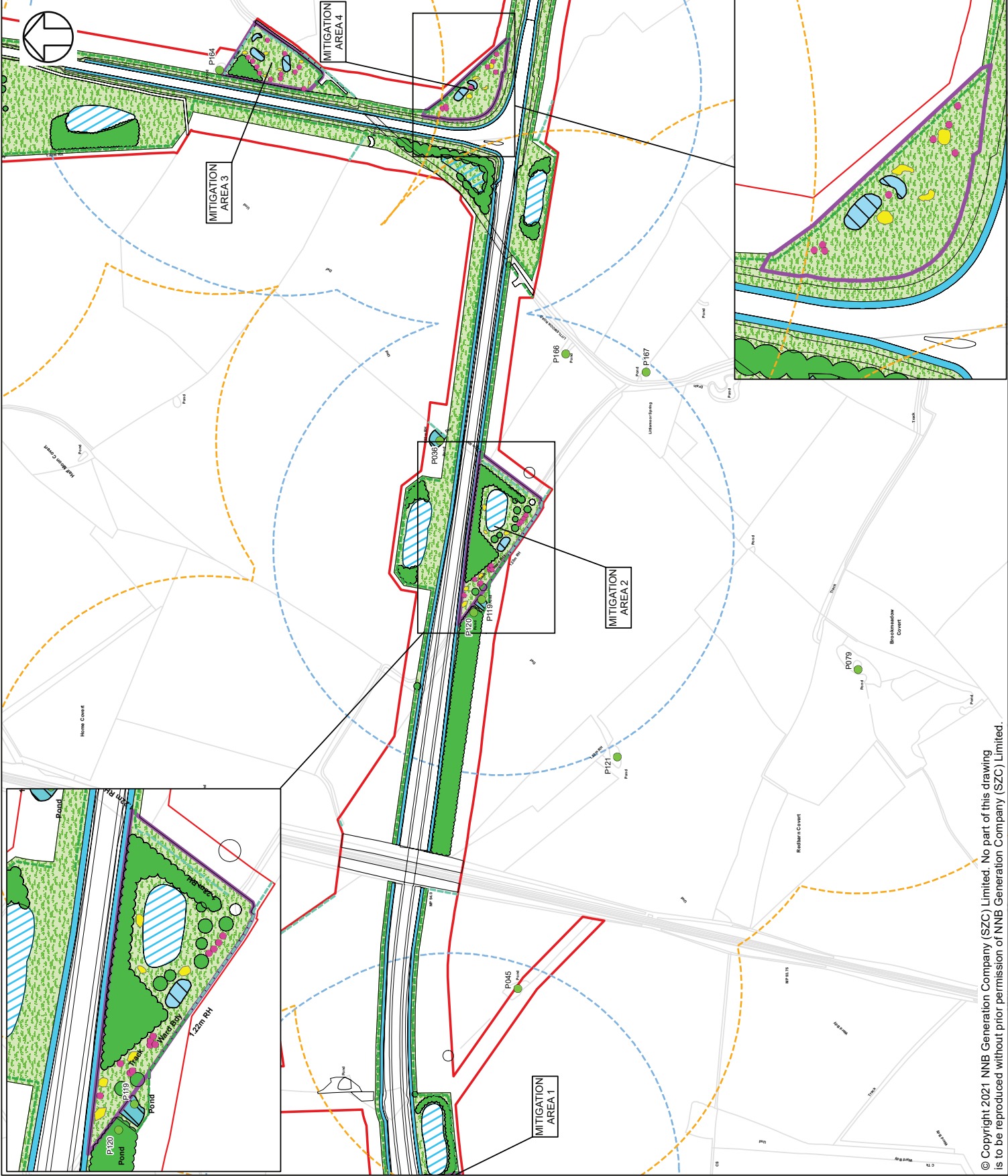
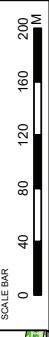
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DOCUMENT:
 SIZEWELL C
 SIZEWELL LINK ROAD GREAT CRESTED NEWT
 LICENSING APPLICATION

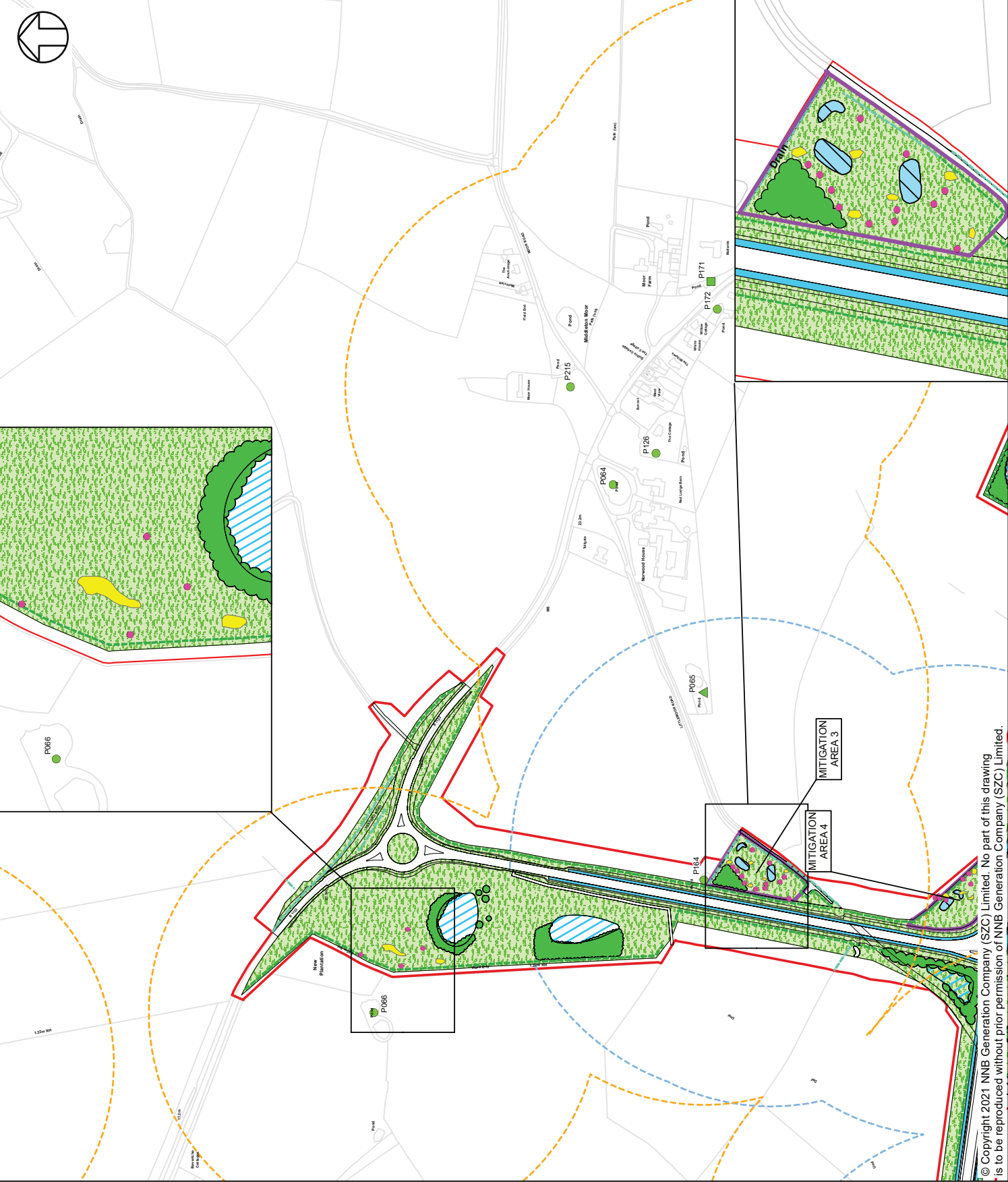
DRAWING TITLE:
 HABITAT MEASURES MAP
 SHEET 3 OF 8

DRAWING NO.:
 FIGURE E3.1
DATE:
 AUG 2021
SCALE:
 R.C.
 1:4,000 @A3



KEY

	SIZEWELL LINK ROAD DEVELOPMENT SITE BOUNDARY
	GCN PRESENT (CONVENTIONAL SURVEYS)
	GCN PRESENT (EDNA SURVEYS)
	GCN ASSUMED PRESENT
	250M RADI
	INDICATIVE POND FOR GREAT CRESTED NEWT MITIGATION
	GRASSLAND
	NATIVE TREE AND SHRUB PLANTING
	INDICATIVE ATTENUATION BASIN
	RETAINED SWALE
	PROPOSED HEDGEROWS
	MITIGATION AREAS
	PROPOSED REFUGIA
	PROPOSED HIBERNACULA



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DOCUMENT:
 SIZEWELL C
 SIZEWELL LINK ROAD GREAT CRESTED NEWT
 LICENSING APPLICATION

DRAWING TITLE:
 HABITAT MEASURES MAP
 SHEET 4 OF 8

DRAWING NO.:
 FIGURE E3.1
DATE:
 AUG 2021
SCALE:
 R.C.
 1:4,000 @A3

