Steeple Renewables Project

Appendix 7.10: Great crested newt report

Issuing office

3 Brunel House | Hathersage Park | Station Approach | Hathersage | Derbyshire | S32 1DP
T: 01433 651869 | W: www.bsg-ecology.com | E: info@bsg-ecology.com

Client	Renewable Energy Systems Ltd
Project	Steeple Renewables Project
Version	DRAFT

Project number	P22-761

	Name	Position	Date
Originated	Fiona Shuttle	Senior Ecologist	04 September 2024
Reviewed	Daniel Foster	Principal Ecologist	09 September 2024
Updated	Fiona Shuttle	Senior Ecologist	15 November 2024
Approved for issue to client	Daniel Foster	Principal Ecologist	22 November 2024
Issued to client	Emily McVean	Senior Ecologist	22 November 2024

Contents

1 Introduction

1.1 This report is a technical appendix to accompany the Preliminary Environmental Information Report (PEIR) Chapter 7: Ecology and Biodiversity and includes the following information:

- Methods.
- Results including relevant Figures, and summary interpretation.

1.2 For ease of reference the following will be terms referred to within this report to define areas within the Site:

- Proposed Solar Areas: areas within the Site which have been provisionally identified for locating the solar panels, battery storage and other associated infrastructure.
- Biodiversity Mitigation Areas (Eastern and Western): areas of the Site that would not be used for development, and provisionally identified for use as biodiversity mitigation and enhancement.
- The Site: collectively including the Proposed Solar Areas and Biodiversity Mitigation Areas.

2 Methodology

Desk study

2.1 A data search for records of protected and notable species, including great crested newts, within 2 km of the Site was requested from Nottinghamshire Biodiversity Records Centre (NBRC) and Lincolnshire Environmental Records Centre (LERC) in March 2024.

2.2 Consideration of records up to twenty years old as of the request date is included within this report where relevant, as older records are less likely to be of relevance to the current baseline in the local area. Older records were reviewed as part of the desk study and are included where considered to be relevant to the Site, for example they occur on or adjacent to the Site.

2.3 Available existing ecology reports for planning applications in the surrounding area were reviewed as part of the desk study work. This included great crested newt survey results presented within the West Burton Solar Project Environmental Statement (Clarkson & Woods, 2023) for ponds within the desk study area.

2.4 Nottinghamshire Country Council planning application reference 1/46/06/00014 is a quarry scheme (not yet implemented) that is located adjacent the Site's northeast boundary on the farmland between the Site and the River Trent. The survey boundary for the quarry application included areas of the Site to the south of West Burton Power Station in the Proposed Solar Area. The ecology report for that application (ESL, 2010) presents the results of great crested newt *Triturus cristatus* surveys undertaken between March and June 2010 and these were reviewed as part of the desk study for this report.

2.5 The Multi-Agency Geographic Information for the Countryside database (MAGiC) was accessed on 14 June 2024 to identify any granted European Protected Species licences for great crested newts within 2 km of the Site (Defra, 2024).

2.6 Aerial photographs and mapping (Bing Maps, accessed April 2024) of the Site and its surroundings were reviewed to identify any ponds within 500 m and to gain understanding of the Site context, habitat connectivity, and possible historic land-uses and the resulting impacts on amphibian populations (particularly great crested newt).

2.7 All ponds and desk study records located to the east of the River Trent were excluded from the assessment as this acts as a major dispersal barrier to amphibians through the landscape.

Field survey

2.8 Ponds located over 250 m from the Site were scoped out of further assessment as they are poorly connected to the Site as the majority of it and its surrounding area are dominated by arable fields which are subjected to intrusive agricultural pressures such as regular tilling and spraying, with amphibian dispersal routes typically limited to hedgerows and narrow field margins. Where suitable habitat is present, the majority of a great crested newt population will use terrestrial habitats within 50 m of the breeding pond (Jehle, 2000). Research commissioned by Natural England (Cresswell and Whitworth, 2004), has shown that great crested newt densities are very low over 100 m from the breeding pond and that a majority occur within 50 m of the pond. The same research found that it is inefficient to put in place any significant mitigation measures for those ponds more than 250 m away from a proposed development footprint, as most newt movements are within 250 m of breeding ponds. On this basis, a 250 m buffer was considered an appropriate and proportionate distance to include in the assessment.

2.9 During the desk study four potential[1] ponds were identified within the Proposed Solar Area, four potential ponds found within the Eastern Biodiversity Mitigation Area and an additional 14 offsite potential ponds found within 250 m of the Site boundaries (the Survey Area). Pond locations are shown on Figure 7.10.1 in Section 5. Wet ditches and field drains within the Site boundaries were

[1] Features that identified via aerial photography and OS mapping, that would require ground-truthing.

also included in the survey where they had a water depth of over 5 cm and with no perceptible flow; seven potentially suitable wet ditches were identified. No ponds or potentially suitable ditches were identified in the Western Biodiversity Mitigation Area.

2.10 Habitat Suitability Index assessment and environmental DNA (eDNA) survey were undertaken between mid-April and June 2024 for each waterbody where access could be obtained. Appendix 7.10.1 provides details of the survey work that has been undertaken and any notes of access limitations. Pond survey results are shown on Figure 7.10.2 in Section 5.

Great crested newt Habitat Suitability Index (HSI) assessment

2.11 A HSI assessment is a quantitative means of evaluating habitat quality for great crested newt and is measured over ten indices: macrophyte cover; terrestrial habitat quality; aquatic habitat quality; number of ponds within 1 km; geographic location of site; presence/absence of fish; presence/ absence of waterfowl; surface area of waterbody; waterbody permanency; shading of perimeter of water body (Oldham *et al*., 2000).

2.12 The HSI provides an overall numerical index between 0 and 1 where scores closer to 0 indicate poor habitat with low probability of great crested newt occurrence, and scores closer to 1 represent suitable habitat with a higher probability of occurrence (ARG UK, 2010).

Great crested newt eDNA survey

2.13 Great crested newt DNA is released into aquatic environments through shed skin cells, urine, faeces and saliva. It can persist in water for several weeks and can be collected. A test has been developed for detecting the eDNA of the species which can be an effective way to determine presence or likely absence of great crested newt.

2.14 All sample collection was undertaken with reference to SureScreen Scientifics eDNA sample protocol and published methodology (Biggs *et al*., 2014). Water samples were collected within the recommended survey period (mid-April to the end of June)[2]. The samples were then labelled and sent to the laboratory for analysis.

Personnel

2.15 The HSI assessments and eDNA surveys were led by Senior Ecologist Fiona Shuttle, who holds a Natural England great crested newt scientific survey licence (ref: 2020-44346-CLS-CLS) and were assisted by Ecologists Katie Hawke and Kasia Chamberlain.

Consideration of potential limitations

2.16 There was no landowner access for the offsite Ponds 13, 15, 17, 17a, 18, 19 and 20 and therefore, these were not subject to HSI assessment or eDNA survey. This limitation is considered in Sections 2 and 3 below during interpretation of results.

[2] Surveys were undertaken on 18 April, 22 April, 30 April, 24 May, 11 June and 18 June 2024.

3 Results and summary interpretation

Desk study

3.1 The data search of MAGiC identified two granted European Protected Species licences for great crested newts within 2 km of the Site. One of which was located to the east of the River Trent and was excluded from further consideration. The remaining record was associated with West Burton power station to the north of the Site, dated 2013 and situated over 750 m from the northern Site boundary, for the destruction of a great crested newt breeding pond. Survey licence returns shown on MAGiC confirm the presence of great crested newts in at least six ponds associated with the power station, most recently in 2017; however all of which are located over 750 m from the Site boundaries.

3.2 The data search with NBGRC and LERC provided no records of great crested newt within the Site and a total of 47 records within 2 km (excluding those to the east of the River Trent). The closest of which is 200 m from the Site boundaries, on the eastern edge of the residential area of Sturton le Steeple; this record is from 2012 of an individual great crested newt within a garden located 80 m to the south-west of offsite Pond 18 (reported by a householder). The majority of the records are from ponds associated with West Burton power station and located over 750 m from the Site.

3.3 Pre-existing survey data reviewed during the desk study includes a great crested newt eDNA survey undertaken in 2022 associated with West Burton power station to the north of the Site (Clarkson & Woods, 2023). This included eDNA survey of offsite Ponds 17 and 17a. Both ponds were described as 'industrial water storage' waterbodies and both returned negative results from the eDNA survey. Pond 17 had a poor HSI score (0.31), whilst Pond 17a had an average outcome (0.64). Additionally, EDF Energy commissioned great crested newt assessment of ponds within West Burton Power Station in 2022 and 2023; the survey area included Ponds 17, 17a, 19 and 20 (EDF Energy, 2022; & EDF Energy, 2023). Pond 17 was recorded as an ornamental pond and Pond 20 was described as a chemical effluent pond, both were subject to eDNA survey which both returned negative results. Ponds 17a and 19 were noted to be a 'cooling tower pond' and were considered to have negligible potential to support great crested newt (no eDNA survey was undertaken) due to their *"lack of suitability, restricted access, and general isolation from existing GCN habitats*". Pond 17a had a poor HSI score (0.15), whilst no HSI score for Pond 19 was provided.

3.4 Pre-existing survey data associated with the adjacent quarry scheme application included population assessment surveys (including torching, netting and bottle trapping) of five ponds within 250 m of the Proposed Solar Areas, including Ponds 5, 8 and 21 shown on Figure 7.10.1. The two remaining ponds that were surveyed as part of the quarry application were located adjacent to Pond 21; however they were found not to exist during a walkover by BSG Ecology in June 2024 (they were both dry with no aquatic vegetation present) so are excluded from further consideration in this report. No great crested newts were recorded during the quarry application surveys of any ponds within 250 m of the Site boundaries. The only great crested newts found as part of that study was a peak count of ten great crested newts within a pond located 870 m to the north-east of the Proposed Solar Area boundary.

Field survey

3.5 The Site is considered to provide largely sub-optimal terrestrial habitat for great crested newt, given the dominant habitat is arable land which is highly disturbed from farming activities, and offers few potential opportunities for rest or shelter. The woodland, hedgerows, grassland field margins and scrub on-site provide suitable terrestrial habitat for great crested newt.

Ponds and wet ditches (on-site)

3.6 The desk study identified eight potential ponds and seven potentially suitable wet ditches within the Site boundaries which were subject to further investigation. The initial field survey found that five ponds did not exist or were damp areas of ground that did not support any aquatic vegetation or standing water and were not functionally considered to be a pond (Ponds 2, 4, 7, 9 and 10; see Appendix 7.10.1).

3.7 Overall, three ponds and all seven wet ditches within the Site were subject to HSI assessment and eDNA survey. A summary of waterbody descriptions, HSI assessment and eDNA results are presented in Table 1 below. The location of waterbodies is shown on Figures 7.10.1 - 2 and the full details of the HSI assessment are presented in Appendix 7.10.2, including photos.

Table 1: HSI summary results (on-site)

Waterbody	Description	HSI score	HSI outcome	eDNA result
Proposed Solar Areas				
Pond 1	Small pond in woodland, c. 30 cm deep, surrounded by scrub and overhanging trees. Very turbid.	0.31	Poor	Negative
Pond 3	Small pond in the corner of a field, c. 50 cm deep, completely shaded by willows growing inside the pond and adjacent hedge. Slightly turbid.	0.44	Poor	Negative
Wet Ditch ED2	Wet ditch along field margin, dry at both ends, with maximum water depth c. 15 cm. Overgrown hedge on eastern bank.	0.59	Below average	Negative
Wet Ditch ED11	Wet ditch through arable field, with steep grassy banks and a water depth c. 50 cm	0.66	Average	Negative
Wet Ditch FD2	Wet ditch through arable field, with grassy banks and a wide (c. 4 m) unmanaged grassland margin on both sides. Water depth up to 30 cm, with emergent vegetation present.	0.65	Average	Negative
Wet Ditch FD3	Wet ditch along field margin, with grassy banks and adjacent to a hedge. Water depth up to 50 cm, with algae and emergent vegetation present.	0.65	Average	Negative
Wet Ditch FD5	Wet ditch through arable field, with steep banks and unmanaged grassland margin. Water depth up to 50 cm, with emergent vegetation present.	0.65	Average	Negative
Wet Ditch FD6	Wet ditch along field margin, adjacent to hedgerow. Water depth up to 30 cm, with algae and emergent vegetation present	0.63	Average	Negative
Eastern Biodiversity Mitigation Area				
Pond 8	Large lake over 1 m deep, surrounded by sheep-grazed grassland, with some scattered scrub on banks. Emergent vegetation present. Likely supports fish.	0.68	Average	Negative
Wet Ditch HD1	Wet ditch along field boundary adjacent to hedgerow. Water depth up to 20 cm, with emergent vegetation present.	0.75	Good	Negative

3.8 The HSI assessment of waterbodies within the Site concluded two were of poor suitability to support breeding great crested newts, one was of below average suitability, six average suitability and one good suitability.

3.9 The eDNA results of all waterbodies tested were negative, thus confirming likely absence of breeding great crested newts within the Site.

Offsite ponds

3.10 The desk study identified 14 ponds within 250 m of the Site boundaries potentially suitable to support breeding great crested newt, which were subject to further investigation. Of which, field surveys confirmed three did not exist (Ponds 6, 14 and 16). Of the 11 remaining offsite ponds, four were subject to HSI assessment and eDNA survey (below), whilst seven could not be accessed (Ponds 13, 15, 17, 17a, 18, 19 and 20; see Appendix 7.10.1).

3.11 A summary of the offsite waterbody descriptions, HSI assessment and eDNA results are presented in Table 2 below. The location of waterbodies is shown on Figures 7.10.1 - 2 and the full details of the HSI assessment are presented in Appendix 7.10.2, including photos.

Table 2: HSI summary results (offsite)

Waterbody	Description	HSI score	HSI outcome	eDNA result
Pond 5	Pond in the corner of a field, up to 1 m deep, with trees on banks, situated adjacent to a wide strip of scrub and rough grassland. Emergent vegetation present and c. 20% algae coverage.	0.80	Excellent	Negative
Pond 11	Garden pond surrounded by patio, lawn, trees and ornamental shrubs. Maximum depth c. 25 cm and aquatic vegetation c.40% cover. Stocked with small ornamental fish.	0.55	Below Average	Negative
Pond 12	Pond in large garden / field with emergent vegetation present. Adjacent rockery, ornamental shrub and trees	0.74	Good	Negative
Pond 21	Pond in middle of field, surrounded by border of rough grassland. Maximum water depth c. 1 m, with emergent vegetation present	0.81	Excellent	Negative

3.12 Of the four accessible offsite ponds within 250 m of the Site boundaries, the HSI assessment concluded one was of below average suitability to support breeding great crested newt, one was of good suitability and two were excellent suitability.

3.13 An eDNA survey of all four of the above offsite ponds was possible; all of which returned negative results.

3.14 There was no landowner access to the remaining seven offsite ponds (Ponds 13, 15, 17, 17a, 18, 19 and 20), so HSI assessment and eDNA survey were not possible.

Interpretation of results

3.15 The eDNA survey results confirmed that the surveyed waterbodies within the Site do not likely support breeding great crested newt.

3.16 Eleven offsite ponds were identified within 250 m of the Site; of which, eDNA survey confirmed that great crested newt were likely absent from four ponds (Ponds 5, 11, 12 and 21). A further four ponds were considered unlikely to support breeding great crested newt given previous assessment (including eDNA survey) undertaken by third parties between 2022 - 2023 which were reviewed as part of the desk study (Ponds 17, 17a, 19 and 20).

3.17 The remaining three offsite ponds (Ponds 13, 15 & 18) were not accessible to survey and no desk study information was available, so it is unknown whether they support great crested newt. The closest of which is Pond 18 situated 185 m from the Site boundaries situated east of Sturton le Steeple; Pond 15 is 245 m and Pond 13 is 250 m from the Site boundary.

3.18 The majority of the Site and surrounding landscape is dominated by arable fields which provide poor terrestrial habitat for great crested newt as they are subject to intrusive agricultural pressures such as regular tilling and spraying and offer few opportunities for shelter. Within the Site, there are some small pockets and narrow strips of suitable terrestrial habitat including hedgerows and grassland field margins within 250 m of the un-surveyed offsite ponds; these could provide potential foraging and shelter opportunities for terrestrial great crested newt, should they be present. Approximately 1.4 ha

of the Proposed Solar Areas fall within 250 m of the three un-surveyed offsite ponds (Ponds 13, 15 & 18), of which, the majority comprises sub-optimal terrestrial habitat in the form of modified grassland (c. 1.3 ha), with only small sections of suitable terrestrial amphibian habitat area included within 250 m of these ponds (up to c. 0.1 ha of arable field margins and other neutral grassland and c. 237 m of hedgerow). Should the un-surveyed offsite ponds 13, 15 & 18 support breeding great crested newts, it is considered unlikely that terrestrial great crested newts would be present within the Site in significant numbers given their distances from the Site boundaries, the suboptimal terrestrial habitats at the Site and the poor terrestrial habitat connectivity between the ponds and the (Jehle, 2000; Cresswell and Whitworth, 2004). Although the presence of great crested newt within the Site and Proposed Solar Areas cannot be entirely discounted, any potential use is likely to be by small numbers of newts and the Site is unlikely to form a significant habitat resource for this species.

Summary and key points

3.19 The desk study identified no records of great crested newt within the Site and the closest record was located 200 m from the Site boundaries. Breeding populations of great crested newt are known to be present in the wider landscape, including ponds associated with West Burton power station located 750 m to the north of the Site

3.20 Three ponds and seven wet ditches within the Site provide potential suitable breeding habitat for great crested newt (including a pond and wet ditch within the Eastern Biodiversity Mitigation Area), with up to 11 additional offsite ponds located within 250 m of the Site boundaries. The Site predominantly provides sub-optimal terrestrial habitat for great crested newt (arable fields) with a few small pockets of woodland, hedgerow, grassland field margins and scrub present which provide some isolated pockets of suitable terrestrial habitat

3.21 The eDNA survey confirmed that all waterbodies within the Site do not support breeding great crested newt.

3.22 Of the 11 offsite ponds, eDNA survey was possible which confirmed that great crested newt were likely absent from four ponds. A further four ponds were considered unlikely to support breeding great crested newt given previous assessment undertaken by third-parties in 2022-2023 which was reviewed as part of the desk study.

3.23 The remaining three offsite ponds were not accessible for HSI assessment or eDNA survey and no desk study information was available. The closest of which is situated over 180 m from the Site boundaries, situated east of Sturton le Steeple.

3.24 Overall, no breeding populations of great crested newts are present within the Site, however it is possible that breeding populations are present in offsite waterbodies within 250 m of the Site boundaries. It is considered unlikely that terrestrial great crested newts are present within the majority of the Site, including the Proposed Solar Areas. There are small areas of the Proposed Solar Areas located between 180 – 250 m of the offsite ponds (including a total of c. 0.1 ha of suitable terrestrial amphibian habitat), but it is considered unlikely that great crested newts would be present in large numbers given the distance to the nearest potential breeding pond (over 180 m from the Site boundaries) and due to the limited availability of suitable terrestrial habitat on Site and poor connectivity to offsite ponds. However, the possibility of terrestrial great crested newts within the Site in small numbers cannot be ruled out.

4 References

ARG UK (2010) *Advice Note 5: Great Crested Newt Habitat Suitability Index.* Available at: https://www.arguk.org/info-advice/advice-notes/9-great-crested-newt-habitat-suitability-index-arg-advice-note-5/file (Accessed: 21 November 2024).

Biggs, J., Ewald, N., Valentini, A., Gaboriaud, C., Griffiths, RA., Foster, J., Wilkinson, J., Arnett. A., Williams, P., and Dunn, F. (2014) *Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (Triturus cristatus) environmental DNA.* Freshwater Habitats Trust, Oxford.

Clarkson & Woods (2022) *Cottam Solar Project Environmental Statement, Appendix 9.7: Great crested newt survey report*

Clarkson & Woods (2023) *West Burton Solar Project Environmental Statement, Appendix 9.7: Great crested newt survey report*

Cresswell and Whitworth (2004) *An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt.* English Nature Research Report No. 576.

EDF Energy (2022) *West Burton 2022 eDNA Assessment - Core Waterbodies, Figure 1*

EDF Energy (2023) *West Burton Great Crested Newt Update*

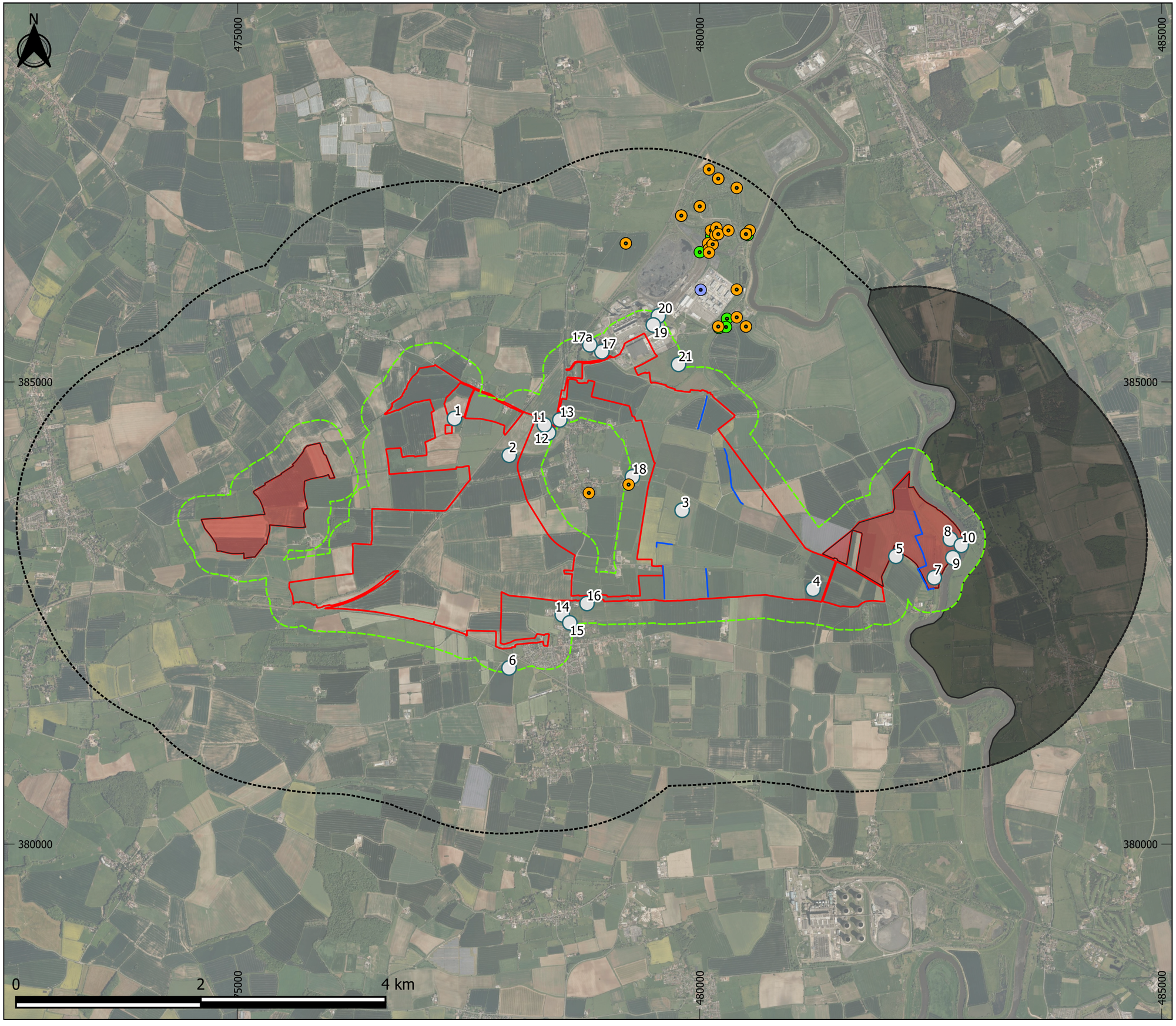
ESL (2010) Ecological Baseline Update Survey, Sturton-Le-Steeple, Nottinghamshire

Jehle (2000) *The terrestrial summer habitat of radio tracked great crested newts (Triturus cristatus and marbled newts (Triturus marmoratus).* The Herpetological Journal **10**: 137-143.

Defra (2024) *MAGiC map application*. Available at: https://magic.defra.gov.uk/MagicMap.aspx (Accessed: 14 June 2024).

Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000) *Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus)*. Herpetological Journal 10(4), 143-155.

5 Figures



Legend

- Site boundary
- 2km from site boundary
- 250m buffer from site boundary
- Ponds within 250 m of site boundary
- Wet ditches
- Area to the east of the River Trent excluded from the desk study
- Biodiversity Mitigation Areas

Desk study records:

- Desk study record of great crested newt from local records centre
- European Protected Species licences for great crested newts
- Great crested newt survey licence returns shown on MAGIC

BSG ecology

OFFICE: DERBYSHIRE
T: 01433 651869

JOB REF: P22-761

PROJECT TITLE

STEEPLE RENEWABLES PROJECT

DRAWING TITLE

Figure 7.10.1: Pond locations and desk study results

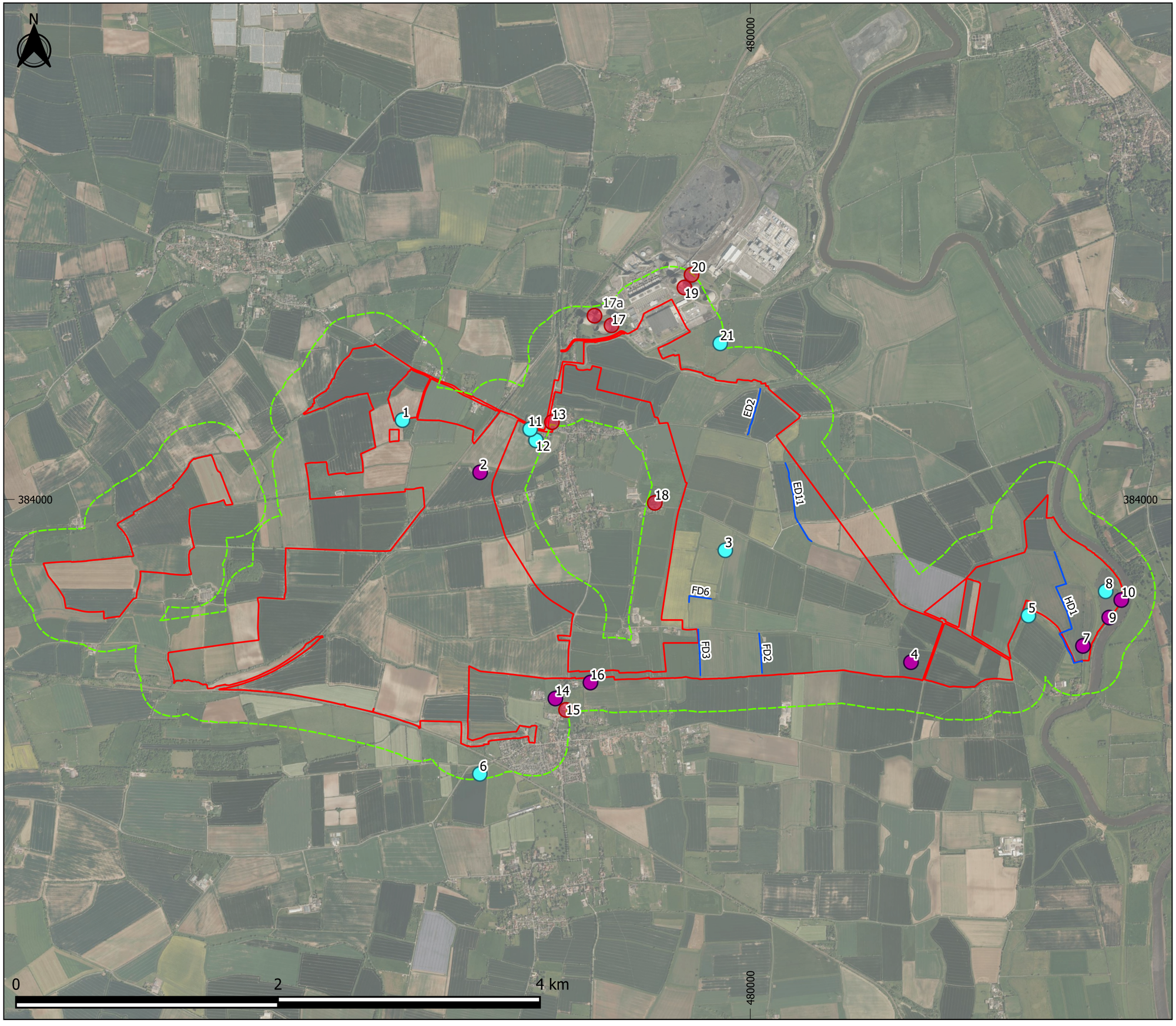
DATE: 22/11/2024 CHECKED: FS SCALE: 1:39,000

DRAWN: SP APPROVED: EM VERSION:1.2

Projection: OSGB 1936/British National Grid - EPSG 27700

Sources: BSG Ecology survey data

Graphics Ref. No.: 08729



Legend

- Site boundary
- 250m buffer from site boundary

Amphibian pond results

- eDNA negative
- No access
- Pond does not exist
- Wet ditches with eDNA negative

BSG | ecology

OFFICE: DERBYSHIRE
T: 01433 651869

JOB REF: P22-761

PROJECT TITLE

STEEPLE RENEWABLES PROJECT

DRAWING TITLE

Figure 7.10.2: Pond locations and great crested newt survey results

DATE: 22/11/2024 CHECKED: FS SCALE: 1:27,500

DRAWN: SP APPROVED: EM VERSION:1.2

Projection: OSGB 1936/British National Grid - EPSG 27700

Sources: BSG Ecology survey data

Graphics Ref. No.: 07162

Appendix 7.10.1: Pond locations and access notes

Pond / Ditch Number	Distance from the Site	Accessed	HSI assessment completed	eDNA sampling and analysis completed
On-Site – Proposed Solar Areas				
Pond 1	On-Site	✓	✓	✓
Pond 2	On-Site	✓	Unsuitable: not a pond. Wet depression in a field with no marginal / aquatic vegetation present.	No
Pond 3	On-Site	✓	✓	✓
Pond 4	On-Site	✓	Unsuitable: not a pond. Wet depression in a field with no marginal / aquatic vegetation present.	No
Wet Ditch ED2	On-Site	✓	✓	✓
Wet Ditch ED11	On-Site	✓	✓	✓
Wet Ditch FD2	On-Site	✓	✓	✓
Wet Ditch FD3	On-Site	✓	✓	✓
Wet Ditch FD5	On-Site	✓	✓	✓
Wet Ditch FD6	On-Site	✓	✓	✓
On-Site – Eastern Biodiversity Mitigation Area				
Pond 7	On-Site	✓	Unsuitable: not a pond. Wet depression in a field with no marginal / aquatic vegetation present.	No
Pond 8	On-Site	✓	✓	✓
Pond 9	On-Site	✓	Unsuitable: not a pond. A river flood zone, likely subject to periodical inundation from the river and no aquatic vegetation present.	No
Pond 10	On-Site	✓	Unsuitable: not a pond. A river flood zone, likely subject to periodical inundation from the river and no aquatic vegetation present.	No
Wet Ditch HD1	On-Site	✓	✓	✓
Offsite ponds				
Pond 5	30 m	✓	✓	✓
Pond 6	215 m	No	Pond does not exist. Landowners confirmed no pond present in this location.	n/a
Pond 11	120 m	✓	✓	✓
Pond 12	200 m	✓	✓	✓
Pond 13	250 m	No	No	No

Pond / Ditch Number	Distance from the Site	Accessed	HSI assessment completed	eDNA sampling and analysis completed
Pond 14	155 m	✓	Pond does not exist. Location in a dry field.	n/a
Pond 15	245 m	No	No	No
Pond 16	40 m	✓	Pond does not exist. Location in a dry field.	n/a
Pond 17	100 m	No (Situated within West Burton power station)	No Desk study found third party HSI assessment from 2022.	No Desk study found negative eDNA survey results from 2022.
Pond 17a	190 m	No (Situated within West Burton power station)	No Desk study found third party HSI assessment from 2022.	No Desk study found negative eDNA survey results from 2022
Pond 18	185 m	No	No	No
Pond 19	140 m	No (Situated within West Burton power station)	No	No Desk study found third party assessment for this pond confirming negligible habitat suitability.
Pond 20	250 m	No (Situated within West Burton power station)	No Desk study found third party HSI assessment from 2022.	No Desk study found negative eDNA survey results from 2022.
Pond 21	320 m	✓	✓	✓

Appendix 7.10.1: Great crested newt HSI results

	Pond 1		Pond 2		Pond 3		Pond 4	
SI Description	*Result*	*SI Value*	*Result*	*SI Value*	*Result*	*SI Value*	*Result*	*SI Value*
Geographic location	A	1	Scoped out for GCN. No pond present.		A	1	Scoped out for GCN. No pond present.	
Pond area (m^2)	<50	0.05			<50	0.05		
Desiccation frequency	Sometimes	0.5			Rarely	1		
Water quality	Bad	0.01			Poor	0.33		
Shade (%)	100	0.2			100	0.2		
Water fowl effect	Absent	1			Absent	1		
Fish presence	Absent	1			Absent	1		
Pond Density (No. of ponds within 1 km)	2	0.55			6	0.8		
Terrestrial habitat	Good	1			Poor	0.33		
Macrophyte cover (%)	0	0.3			0	0.3		
HSI Score		**0.31**				**0.44**		
Pond suitability	**Poor**		**n/a**		**Poor**		**n/a**	
Image:								

	Pond 7		Pond 8		Pond 9		Pond 10	
I Description	*Result*	*SI Value*	*Result*	*SI Value*	*Result*	*SI Value*	*Result*	*SI Value*
Geographic location	Scoped out for GCN. No pond present.		A	1	Scoped out for GCN. No pond present.		Scoped out for GCN. No pond present.	
Pond area (m^2)			2000	0.8				
Desiccation frequency			Never	0.9				
Water quality			Moderate	0.67				
Shade (%)			10	1				
Water fowl effect			Minor	0.67				
Fish presence			Possible	0.67				
Pond Density (No. of ponds within 1 km)			4	0.69				
Terrestrial habitat			Poor	0.33				
Macrophyte cover (%)			10	0.4				
HSI Score				**0.68**				
Pond suitability	**n/a**		**Average**		**n/a**		**n/a**	
Image:								

	Wet Ditch ED2		Wet Ditch ED11		Wet Ditch FD2		Wet Ditch FD3	
SI Description	*Result*	*SI Value*	*Result*	*SI Value*	*Result*	*SI Value*	*Result*	*SI Value*
Geographic location	A	1	A	1	A	1	A	1
Pond area (m^2)	150	0.3	450	0.9	100	0.2	100	0.2
Desiccation frequency	Sometimes	0.5	Rarely	1	Rarely	1	Rarely	1
Water quality	Poor	0.33	Poor	0.33	Poor	0.33	Poor	0.33
Shade (%)	90	0.4	85	0.5	60	1	30	1
Water fowl effect	Absent	1	Absent	1	Absent	1	Absent	1
Fish presence	Absent	1	Absent	1	Absent	1	Absent	1
Pond Density (No. of ponds within 1 km)	10	0.93	6	0.8	3	0.65	5	0.75
Terrestrial habitat	Poor	0.33	Poor	0.33	Poor	0.33	Poor	0.33
Macrophyte cover (%)	50	0.8	10	0.4	65	0.95	50	0.8
HSI Score		**0.59**		**0.66**		**0.65**		**0.65**
Pond suitability	**Below average**		**Average**		**Average**		**Average**	
Image:								

	Wet Ditch FD5		Wet Ditch FD6		Wet Ditch HD1	
SI Description	*Result*	*SI Value*	*Result*	*SI Value*	*Result*	*SI Value*
Geographic location	A	1	A	1	A	1
Pond area (m^2)	650	1	100	0.2	600	1
Desiccation frequency	Sometimes	0.5	Rarely	1	Rarely	1
Water quality	Poor	0.33	Poor	0.33	Poor	0.33
Shade (%)	95	0.3	60	1	30	1
Water fowl effect	Absent	1	Absent	1	Minor	0.67
Fish presence	Absent	1	Absent	1	Absent	1
Pond Density (No. of ponds within 1 km)	9	0.9	7	0.85	5	0.75
Terrestrial habitat	Poor	0.33	Poor	0.33	Poor	0.33
Macrophyte cover (%)	60	0.9	25	0.55	70	1
HSI Score		**0.65**		**0.63**		**0.75**
Pond suitability	**Average**		**Average**		**Good**	
Image:						

Offsite ponds

(Offsite ponds 13, 15, 17, 17a, 18, 19 & 20 could not be accessed so HSI was not undertaken. Ponds 6, 14 and 16 do not exist)

	Pond 5		**Pond 11**		**Pond 12**		**Pond 21**	
SI Description	*Result*	*SI Value*	*Result*	*SI Value*	*Result*	*SI Value*	*Result*	*SI Value*
Geographic location	A	1	A	1	A	1	A	1
Pond area (m^2)	500	1	1000	0.95	150	0.3	300	0.6
Desiccation frequency	Never	0.9	Never	0.9	Never	0.9	Sometimes	0.5
Water quality	Moderate	0.67	Good	1	Moderate	0.67	Moderate	0.67
Shade (%)	45	1	15	1	15	1	30	1
Water fowl effect	Absent	1	Minor	0.67	Minor	0.67	Absent	1
Fish presence	Possible	0.67	Major	0.01	Absent	1	Absent	1
Pond Density (No. of ponds within 1 km)	5	0.75	11	0.96	9	0.9	7	0.85
Terrestrial habitat	Moderate	0.67	Moderate	0.67	Moderate	0.67	Good	1
Macrophyte cover (%)	25	0.55	45	0.75	35	0.65	40	0.7
HSI Score		**0.8**		**0.55**		**0.74**		**0.81**
Pond suitability	**Excellent**		**Below Average**		**Good**		**Excellent**	
Image: