

Great Crested Newt 2019 Report



Omega Zone 8

St Helens, WA5 3UG



Ecological Assessments

Environmental Statements (Biodiversity)

Species Surveys

Phase I Habitat Survey

National Vegetation Classification

Planning Guidance

Habitat Regulation Assessment

Protected Species Licensing

42020 CEMP: Biodiversity

BREEAM LE01 - 05

Consultant Report on behalf of:

REPORT STATUS

Issue/revision	Issue 1: DRAFT TO CLIENT	Issue 2: FINAL	Issue 3: AMENDED FINAL
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1 INTRODUCTION

1.1 BACKGROUND

- 1.1.1. The following report has been prepared on behalf of Omega Warrington Ltd and provides the results of Great Crested Newt surveys undertaken at Omega Zone 8, St Helens ('The Site').

1.2 LOCATION

- 1.2.1 The Site forms part of the Omega business estate located west of Warrington, falling just within St Helens Borough. It is immediately south of the M62, west of Junction 8, and immediately west of the Warrington District County boundary and Lingley Mere.

1.3 PROPOSALS

- 1.3.1 This is a hybrid application for full and outline planning permission:

Hybrid Planning Application

- i. Full Planning Permission for the erection of a B8 warehouse, with ancillary offices, associated parking, infrastructure, and landscaping; and
- ii. Outline Planning Permission for Manufacturing (B2) and Logistics (B8) development with ancillary offices and associated car parking, landscaping and infrastructure (detailed matters of appearance; layout and scale are reserved for subsequent approval)

1.4 SITE DESCRIPTION

- 1.4.1 The Site (~75.5 ha) is dominated by arable land with woodland belts, a network of ponds and ditches improved grassland and scrub habitat present. A brook runs through the centre of the Site from the northwest and adjoins to the southern boundary. Off-site woodland is present to the south and west of the Site and a woodland belt forms the eastern boundary.

- 1.4.2 A total of 17 ponds are on Site or immediately adjacent Site boundaries. The majority of ponds on Site are considerably shaded by woodland, scrub or scattered trees.

1.5 DESK STUDY

Data Trawl

- 1.5.1 A biological records search was carried out to determine the known features on and surrounding the Site. All records were obtained from two cross-border sources; Merseyside BioBank Records¹ (St Helens) and RECORD LRC² (Warrington/Cheshire). Information requested included the location and details of amphibian records within 2km of the Site. The results can be seen in Figure 2. Only records which were obtained within the last 10 years, and those including a 6-figure grid reference or higher, were included within the search.
- 1.5.2 The data trawl highlights one previous GCN record on site, with GCN and other amphibians recorded northwest of the Site, more than 1km away. Movement of these populations towards the Site is prohibited by the M62 acting as a permeant barrier to dispersal.

¹ <https://activenaturalist.org.uk/mbb>

² www.record-lrc.co.uk

Figure 1

Location

Omega Zone 8, St Helens

Legend

- Development Site
- Site Location



Drawing No.: 16903-1BBS_A

Revision Dates			
A	B	C	D
10/10/2019			

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Drawings are diagrammatic and not to scale. Refer to architect drawings for exact measurements

2 METHODS

2.1 HABITAT ASSESSMENT

- 2.1.1 The Site was assessed for its use by GCN. Ponds and watercourses were identified within 500m of the Site boundary ($n=35$), and eDNA samples were collected from accessible ponds ($n=27$) and analysed in a laboratory for evidence of GCN eDNA to indicate presence/absence, following methods set out by Biggs et al. 2014³ (**Table 1**). Pond suitability for GCN occupation was assessed using the Habitat Suitability Index [HSI] following methods set out by Oldham et al. 2000⁴.
- 2.1.2 The Site was also assessed for terrestrial habitat for use by GCN. The phase 1 survey highlighted areas of woodland belts, hedgerows and grassland all of which can be used as shelter and foraging areas for GCN.

eDNA Surveys

- 2.1.3 Samples of water were then taken from all accessible waterbodies within 500m of the applicant boundary, and eDNA tests were carried out. Where eDNA survey results were negative GCN are considered absent. eDNA has been shown to detect GCN 99.3% of the time and is considered more reliable than presence absence surveys (Biggs et al. 2014³).

Method

- 2.1.4 eDNA testing followed Natural England's approved protocol (WC1067), which ensures that the tests meet the required regulatory standards (see below). The following methodology was undertaken for all eDNA samples collected:
- Retrieve twenty 30ml water samples from around the edge of a pond, taking care not to disturb the sediment (eDNA can be preserved in sediment, leading to a false positive);

³ Biggs J., Ewald N., Valentini A., Gaboriaud C., Griffiths R.A., Foster J., Wilkinson J., Arnett A., Williams P. and Dunn F. 2014. Analytical and methodological development for improved surveillance of the Great Crested Newt. Defra Project WC1067. Freshwater Habitats Trust: Oxford.

⁴ 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.

- Mix the twenty samples in a mixing bag and pipette the sample into the six 50ml tubes and seal;
- Store and label samples and box with pond number and date;
- The tubes contain a preservative that protects any eDNA from degradation while they are sent back to the lab and analysed.

2.1.5 Lab testing was undertaken by Naturemetrics⁵, who scored 100% in the FAPAS 2019 GCN eDNA proficiency test. The test is based on qPCR, which is carried out in 12 replicates per sample. Results of eDNA testing are seen in Table 1.

Habitat Suitability Index (HSI)

2.1.6 Habitat Suitability Index (HSI) assessments were undertaken for all accessible ponds using the methods outlined in Oldham et al. 2000⁴. Table 2 shows ponds where HSI was undertaken, several ponds within the survey area were inaccessible and two were deemed unsuitable for surveying.

Method

2.1.7 Ponds were scored against 10 suitability indices including Location; Pond Area, Pond Drying, Water Quality, Shade, Fowl, Fish, Ponds, Terrestrial Habitat and Macrophytes. HSI scores are calculated from the above indices to give pond suitability scores for GCN:

- < 0.5 = Poor
- 0.5 – 0.59 = Below average
- 0.6 – 0.69 = Average
- 0.7 – 0.79 = Good
- > 0.8 = Excellent

2.1.8 27 ponds were surveyed, 17 of which were on Site and 10 off Site. The HSI results are seen in Table 2.

Personnel

2.1.9 The survey was carried out by licensed surveyor Mark Morgan, License Registration No.: 2017-32019-CLS-CLS; and ecologist Joshua Cartlidge

⁵ <https://www.naturemetrics.co.uk/>

3 RESULTS

3.1 SURVEY RESULTS 2019

eDNA survey results

3.1.1 The results of the 2019 eDNA survey are shown in Table 1, and the HSI results are shown in Table 2. No animals were detected by eDNA in any of the ponds surveyed and all controls performed as expected, so the results are conclusive.

Table 1: eDNA results 2019

Pond ID	Arrived	Inhibition	Degradation	Score	GCN Status
1	24-Apr	No	No	0	Negative
4	24-Apr	No	No	0	Negative
8	24-Apr	No	No	0	Negative
9	24-Apr	No	No	0	Negative
10	24-Apr	No	No	0	Negative
12	24-Apr	No	No	0	Negative after dilution
13	24-Apr	No	No	0	Negative
14	24-Apr	No	No	0	Negative
15	24-Apr	No	No	0	Negative
16	24-Apr	No	No	0	Negative
19	24-Apr	No	No	0	Negative after dilution
21	24-Apr	No	No	0	Negative after dilution
22	24-Apr	No	No	0	Negative
A	24-Apr	No	No	0	Negative
AZ	24-Apr	No	No	0	Negative
B	24-Apr	No	No	0	Negative after dilution
C	24-Apr	No	No	0	Negative after dilution
D	24-Apr	No	No	0	Negative
G	24-Apr	No	No	0	Negative
H	24-Apr	No	No	0	Negative after dilution
I	24-Apr	No	No	0	Negative after dilution
K	24-Apr	No	No	0	Negative
KI	24-Apr	No	No	0	Negative after dilution
S	24-Apr	No	No	0	Negative
X	24-Apr	No	No	0	Negative
Z	24-Apr	No	No	0	Negative

3.1.2 Samples marked as ‘Negative after dilution’ are those where inhibition was detected (when the marker added in the lab fails to amplify) but this is overcome by diluting the sample. Inhibition can be caused by certain chemicals or organic compounds that may be present in the water sample.

3.2 HABITAT SUITABILITY

- 3.2.1 A Habitat Suitability Index was carried out for 2019 (refer to Table 2) using Oldham's score (Oldham et al 2000⁴). Of the 27 ponds surveyed, 13 were classified as poor, 5 were below average, 5 average and 2 of good suitability for GCN.
- 3.2.2 BWP area was originally marked as no access, but access was later granted. The period for GCN survey was over. However, the pond scored as below average. The likelihood of GCN within BWP is very minimal, and land use outside of Booth's Wood causes a barrier to newt dispersal (i.e. intensive management). Furthermore, this area is to remain unaffected by the proposals.

Table 2. HSI results 2019

Pond Reference	1	4	8	9	10	12	13	14	15	16	19	21	22	A
SI1 - Location	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SI2 - Pond area	0.6	0.6	1	0.2	0.9	1	0.8	0.2	1	0.4	1	0.4	0.8	0.9
SI3 - Pond drying	0.9	0.5	1	0.9	0.9	0.9	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.1
SI4 - Water quality	0.01	0.01	0.01	0.33	0.01	0.01	0.01	0.01	0.01	0.01	0.33	0.01	0.33	0.67
SI4 - Shade	0.3	0.2	0.2	0.6	0.3	0.2	0.2	0.2	0.2	0.4	1	0.2	0.3	0.3
SI6 - Fowl	0.67	0.67	1	0.67	0.67	0.67	0.67	1	1	0.67	0.01	0.67	0.33	0.67
SI7 - Fish	0.67	1	1	0.67	0.67	0.67	1	1	1	0.67	0.67	0.67	0.33	0.33
SI8 - Ponds	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SI9 - Terr'l habitat	0.33	1	1	1	0.67	0.67	0.67	0.67	0.67	0.67	0.33	0.67	0.67	0.67
SI10 - Macrophytes	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5
HSI	0.39	0.41	0.48	0.59	0.43	0.42	0.40	0.36	0.43	0.41	0.43	0.38	0.52	0.52
Pond suitability	<i>Poor</i>	<i>Poor</i>	<i>Poor</i>	<i>Below average</i>	<i>Poor</i>	<i>Poor</i>	<i>Poor</i>	<i>Poor</i>	<i>Poor</i>	<i>Poor</i>	<i>Poor</i>	<i>Poor</i>	<i>Below average</i>	<i>Below average</i>





Pond Reference	AZ	B	C	D	G	H	I	K	Ki	S	X	Z	BWP
SI1 - Location	1	1	1	1	1	1	1	1	1	1	1	1	1
SI2 - Pond area	1	0.8	1	1	1	0.7	0.9	0.7	0.95	0.3	0.9	0.3	0.2
SI3 - Pond drying	1	0.9	0.9	0.1	0.9	0.9	0.9	0.5	0.9	0.5	1	0.9	0.5
SI4 - Water quality	0.33	0.83	0.33	0.01	0.33	0.33	0.33	0.67	0.33	0.33	0.33	0.33	0.33
SI4 - Shade	1	0.4	0.3	1	0.3	0.3	0.2	1	0.6	0.3	1	0.2	0.4
SI6 - Fowl	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.01	0.67	1
SI7 - Fish	0.67	0.67	0.33	1	0.67	0.33	0.67	1	0.67	1	0.67	0.67	1
SI8 - Ponds	1	1	1	1	1	1	1	1	1	1	1	1	1
SI9 - Terr'l habitat	0.67	0.33	1	0.33	0.67	0.33	1	0.67	0.67	0.67	0.33	1	0.67
SI10 - Macrophytes	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.3	0.3	0.3
HSI	0.70	0.63	0.60	0.38	0.62	0.52	0.61	0.71	0.66	0.57	0.43	0.55	0.55
Pond suitability	<i>Good</i>	<i>Average</i>	<i>Average</i>	<i>Poor</i>	<i>Average</i>	<i>Below average</i>	<i>Average</i>	<i>Good</i>	<i>Average</i>	<i>Below average</i>	<i>Poor</i>	<i>Below average</i>	<i>Below average</i>

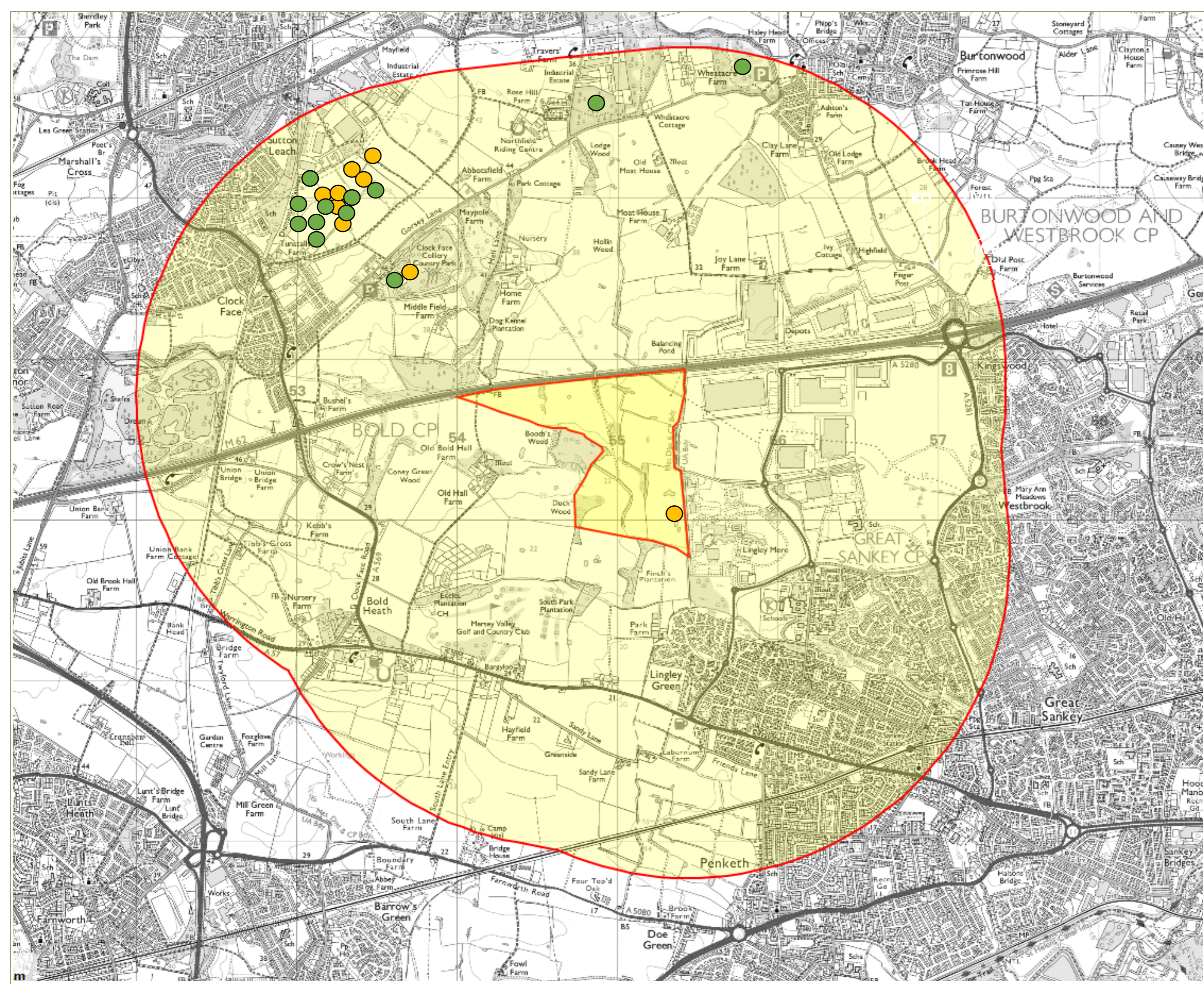
Figure 2

Data Trawl

Omega Zone 8, St Helens

Legend

-  Development Site
-  2km radius
-  GCN record
-  Common amphibian record



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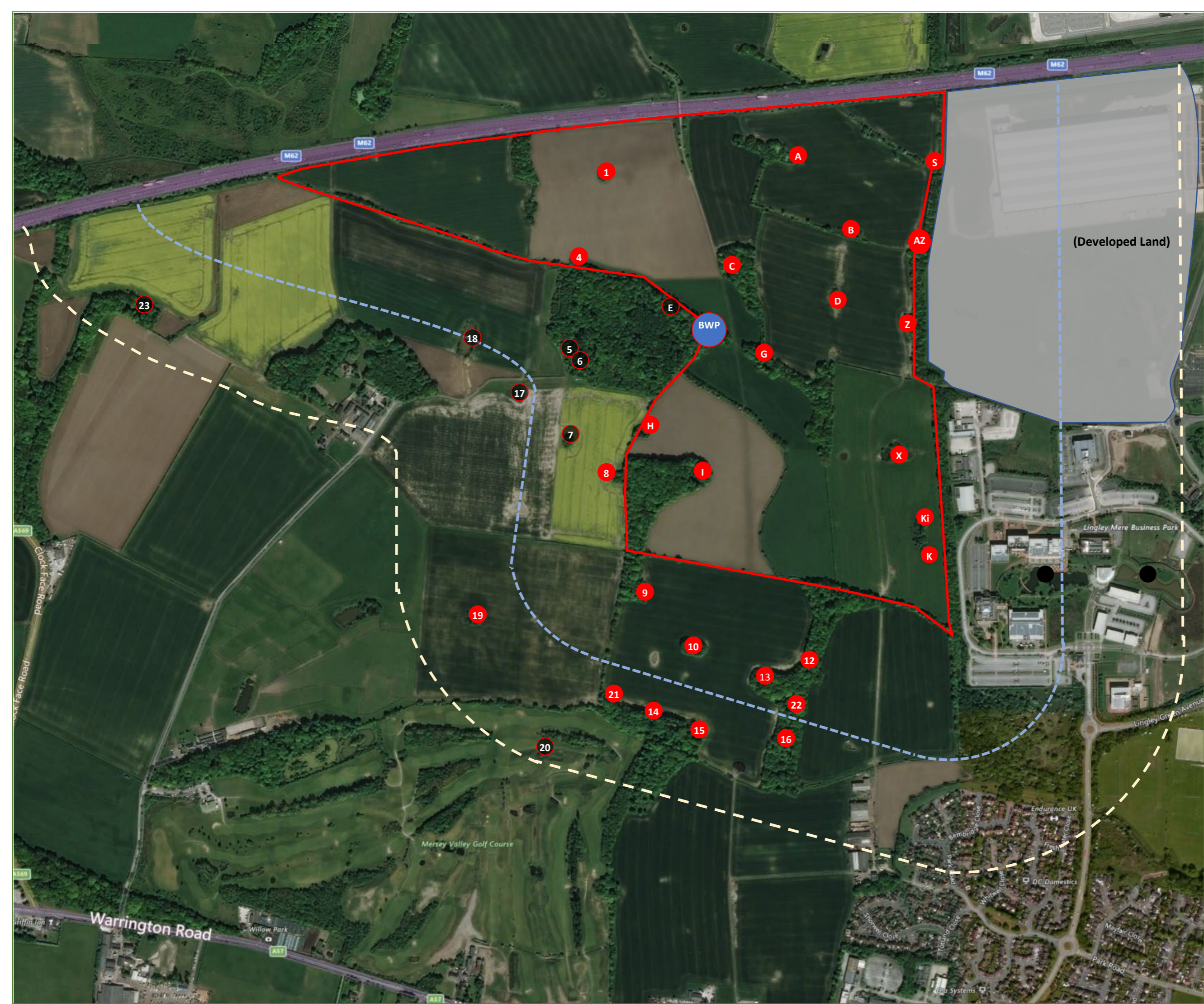
Figure 3

Survey Map

Omega Zone 8, St Helens

Legend

-  Application Boundary
-  250m from Application Boundary
-  500m from Application Boundary
-  Pond surveyed
-  No access for any survey
-  Pond Unsuitable
-  Pond HSI only



Drawing No.: 16903-0#GCN_A

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