LAND OFF TATENHILL LANE, BURTON-UPON-TRENT

GREAT CRESTED NEWT HABITAT SUITABILITY INDEX ASSESSMENT

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MIDDLEMARCH ENVIRONMENTAL

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REPORT VERIFICATION AND DECLARATION OF COMPLIANCE

This study has been undertaken in accordance with British Standard 42020:2013 “Biodiversity, Code of practice for planning and development”.

Report Version	Date	Completed by:	Checked by:	Approved by:
Final	14/08/2017	Charlotte Richardson MSc (Ecological Consultant)	Ellie Rickman MSc, ACIEEM (Senior Ecological Consultant)	Dr. Philip Fermor CEnv, MCIEEM (Managing Director)

The information which we have prepared is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management’s Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

DISCLAIMER

The contents of this report are the responsibility of Middlemarch Environmental Ltd. It should be noted that, whilst every effort is made to meet the client’s brief, no site investigation can ensure complete assessment or prediction of the natural environment.

Middlemarch Environmental Ltd accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

VALIDITY OF DATA

The findings of this study are valid for a period of two to four years, depending upon the nature of works proposed and the potential for these works to impact upon great crested newts. If works have not commenced within two years of this study, it may be necessary to undertake an updated survey to allow any changes in the status of great crested newts on site to be assessed, and to inform a review of the conclusions and recommendations made.

NON-TECHNICAL SUMMARY

In July 2017, Lioncourt Homes commissioned Middlemarch Environmental Ltd to undertake a Habitat Suitability Index Assessment for great crested newts *Triturus cristatus* at the site of a proposed development off Tatenhill Lane, Branston, Burton-upon-Trent.

Reference to Ordnance Survey mapped and previous survey data indicated the potential presence of up to five waterbodies within a 500 m radius of the site. Waterbodies P2 to P4 were subjected to HSI assessment, but Ponds P1 and P5 were not, as one was dry (P1) and one was separated from the site by dispersal barriers (P5). In addition to waterbodies highlighted on Ordnance Survey mapped data, an additional two pre-formed garden ponds were identified onsite – one to the south-west of No.78 Tatenhill Lane and one to the south-west of No. 80 Tatenhill Lane.

As part of the Preliminary Ecological Appraisal (RT-MME-125808-01) completed by Middlemarch Environmental Ltd in July 2017, a desk study for records of protected species was completed. No records of great crested newts were identified within a 1 km radius of the proposed development site.

The field assessment was undertaken on 12th July 2017 by Charlotte Richardson MSc (Ecological Consultant), Emily Wordley BSc (Hons) (Ecological Project Officer) and Archie Bird (Ecological Project Officer).

The majority of the site was considered to be sub-optimal for terrestrial great crested newts, as the dominant habitat was poor semi-improved grassland which was recently mown (sward height <15 cm) with limited potential shelter features. However, the hedgerows and scrub located upon the site boundaries were deemed to offer some potential foraging and commuting habitat for terrestrial newts. The results of the HSI assessment concluded that all of the surveyed waterbodies (P2, P3 and P4) located within a 500 m radius of the proposed development site have either 'poor' or 'below average' suitability for great crested newts. The only other ponds which were not subjected to HSI assessment were Pond P1 and P5, one of which was dry (P1) and the other of which was located on the opposite side of the A38 which was considered to be a significant barrier to dispersal (P5).

All recommendations provided in this section are based on Middlemarch Environmental Ltd's current understanding of the site proposals, correct at the time the report was compiled.

R1 HSI Survey Data
The waterbodies adjacent to and surrounding the Land off Tatenhill Lane, Branston currently have 'below average' and 'poor' suitability for great crested newts, and as such it is anticipated that great crested newts are not a notable consideration in relation to the proposed development. The survey data obtained for the site is valid for 2 years from the survey date.

R2 Other Amphibians
As the pre-formed ponds within the gardens of No. 78 and 80 Tatenhill Lane had the potential to support other amphibian species, it is recommended that these be decommissioned under the supervision of a suitably qualified ecologist, in order to ensure that no amphibian species are harmed.

CONTENTS

1. INTRODUCTION

1.1 PROJECT BACKGROUND

In July 2017, Lioncourt Homes commissioned Middlemarch Environmental Ltd to undertake a Habitat Suitability Index Assessment for great crested newts *Triturus cristatus* at the site of a proposed development off Tatenhill Lane, Branston, Burton-upon-Trent.

In addition to the updated Great Crested Newt Habitat Suitability Index Assessment, Middlemarch Environmental Ltd was also commissioned to complete an updated Preliminary Ecological Appraisal and an updated Preliminary Roost Assessment at the same site. The findings from these reports can be found in Reports RT-MME-125808-01 and -02 respectively.

Great crested newts are a European protected species and they are capable of being material considerations in the planning process. A summary of the legislation protecting great crested newts is included within Appendix 1. This section also provides some brief information on the ecology of great crested newts.

1.2 DEVELOPMENT SITE DESCRIPTION AND CONTEXT

The site was located within Branston village on the south-western outskirts of Burton-upon-Trent. It consisted of a roughly rectangular shaped parcel of land which measured approximately 2.8 ha and was centred at OS Grid Reference SK 2174 2115. The topography was largely flat, and the site consisted predominantly of poor, semi-improved grassland with pockets of scrub and tall ruderal. In addition, the site boundaries comprised of mixed hedgerows with a variety of fences present along the northern boundary.

Within the immediate landscape, residential properties with associated gardens were located adjacent to the northern boundary with Tatenhill Lane beyond. The eastern boundary was dominated by an area of woodland/scrub and a container storage facility with associated hard standing. The southern boundary was bounded by Branston Water Park, which consisted primarily of a number of large standing waterbodies. The largest of these was located roughly 15 m from the site boundary and it extended up to 700 m to the south-west of the site. The western site boundary was bordered by the Trent and Mersey Canal (located 5 m away) with agricultural grassland beyond.

The wider surrounding landscape to the north, east and west was dominated by agricultural grassland with associated scattered trees and hedgerows, but areas of standing/running water and woodland were also present. In contrast, the north-east was dominated by the built environment, with residential and commercial properties, major and minor roads and hard standing.

The A38 (Lichfield Road) was situated approximately 50 m to the east of the site, and the River Trent and a railway line were located roughly 690 m and 570 m to the south-east respectively (both beyond the A38).

1.3 SURVEY AREA AND JUSTIFICATION

Reference to Ordnance Survey and previous survey data indicated the potential presence of up to five ponds within a 500 m radius of the site. Waterbodies P2 to P4 were subjected to HSI assessment, but Ponds P1 and P5 were scoped out of the assessment. P1 was found to be dry at the time of survey (Plate 8.1), and P5 was separated from the site by the A38, which was considered to be a significant barrier to great crested newt dispersal.

In addition to ponds highlighted on Ordnance Survey mapped data, an additional two pre-formed garden ponds were identified on site – one to the south-west of No.78 Tatenhill Lane (Plate 8.2) and one to the south-west of No. 80 Tatenhill Lane (Plate 8.3). Both of these ponds were very small (approximately 1 m^2) with little egg laying habitat and limited open water courtship opportunities. These ponds were both considered to be unsuitable for great crested newts due to their size, so they were not subject to any further survey effort.

The distances of all ponds within the survey area from the development boundary are provided in Table 1.1, along with the justification for inclusion or exclusion from the survey effort. The locations of these ponds in

relation to the proposed development site are shown on Middlemarch Environmental Ltd Drawing C125808-03-01 in Chapter 7.

Pond Reference	Distance from Development Boundary	Subject to Survey?	Justification
P1	Immediately adjacent to the eastern site boundary	No	This pond was not subjected to a HSI assessment, as it was dry at the time of survey.
P2	Approximately 5 m from the western site boundary	Yes - HSI	This stretch of water was surveyed, as it was included during previous survey effort and was located within close proximity to the site.
P3	Approximately 10 m from the southern site boundary	Yes - HSI	This pond was surveyed, as it was included during previous survey effort and was located within close proximity to the site. Suitable terrestrial habitat was also identified within the intervening distance.
P4	Approximately 190 m to the south-west	Yes - HSI	This pond was surveyed, as it was included during previous survey effort and was located approximately 190 m to the south-west of the site.
P5	Approximately 450 m to the south-east	No	This pond was not surveyed, as it was located approximately 450 m to the south-east of the site, and the A38 was considered to be a significant barrier to great crested newt dispersal.

Table 1.1: Distance of Ponds from the Development Boundary

1.4 DOCUMENTATION PROVIDED

The conclusions and recommendations made in this report are based on information provided by the client regarding the scope of the project. Documentation made available by the client is listed in Table 1.2.

Document Name / Drawing Number	Author
BRTL_01_02A – Site Plan	Lioncourt Homes Ltd
BRTL_01_02A – Site Plan CLR	Lioncourt Homes Ltd

Table 1.2: Documentation Provided by Client

2. METHODOLOGY

2.1 DESK STUDY

As part of the updated Preliminary Ecological Appraisal (Report RT-MME-125808-01) an ecological desk study was undertaken in July 2017. The consultees for the desk study were Derbyshire Wildlife Trust (DWT) and Staffordshire Ecological Record (SER).

Middlemarch Environmental Ltd then assimilated and reviewed the desk study data provided by these organisations. Relevant great crested newt data is discussed in Chapter 3. In compliance with the terms and conditions relating to its commercial use, the full desk study data are not provided within this report.

2.2 HABITAT SUITABILITY INDEX ASSESSMENT

All surveyed ponds were visually assessed for their suitability to support great crested newts by a suitably qualified ecologist. Ponds were assessed utilising the great crested newt Habitat Suitability Index (HSI) developed by Oldham *et al* in 2000 and revised by ARG UK in 2010. The HSI is a numerical index between 0 and 1, wherein a score of 1 represents optimal habitat for great crested newts. The HSI score is used to define the suitability of the pond on a categorical scale (Table 2.1). It should be noted, however, that the system is not precise enough to allow the conclusion that a pond with a high score will definitely support great crested newts whilst those with a low score will not.

HSI Score	Pond Suitability to Support Breeding Great Crested Newts
< 0.5	Poor
0.5 – 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
> 0.8	Excellent

Table 2.1: Great Crested Newt HSI Scoring

The HSI is given by assigning a quantitative figure to each of 10 variables, including pond area, water quality and level of shading, which are all factors thought to affect great crested newts. The tenth root of the product of these variables is then calculated, giving a figure for habitat suitability.

2.3 SITE SUITABILITY AND CONNECTIVITY ASSESSMENT

As part of the Preliminary Ecological Appraisal (Report RT-MME-125808-01) a Phase 1 Habitat Survey was undertaken of the proposed development site. Middlemarch Environmental Ltd used this habitat survey data to undertake an assessment of the suitability of the proposed development site to support great crested newts. An assessment was also made of the habitat connectivity between ponds and the site, based on a review of habitat survey data (if available), aerial imagery and mapped sources.

3. DESK STUDY RESULTS

3.1 BIOLOGICAL RECORDS

As part of the Preliminary Ecological Appraisal (RT-MME-125808-01) completed by Middlemarch Environmental Ltd in July 2017, a desk study for records of protected species was completed. No records of great crested newts were identified within a 1 km radius of the proposed development site.

3.2 PREVIOUS GREAT CRESTED NEWT SURVEY EFFORT

Middlemarch Environmental Ltd has previously completed an Extended Phase 1 Habitat Survey of the site in March 2010 (Report RT-MME-107126). This survey identified several waterbodies within the vicinity of the site together with suitable terrestrial habitat to potentially support great crested newts. In light of these findings, Middlemarch Environmental Ltd undertook a Great Crested Newt Habitat Suitability Index Assessment (Report RT-MME-107305-03) in June 2010, which concluded that the ponds within the surrounding area all had poor or below average suitability for great crested newts. As these survey findings are now considered to be outdated, an updated Great Crested Newt Habitat Suitability Index Assessment was required.

4. RESULTS

4.1 INTRODUCTION

The field assessment was undertaken on 12th July 2017 by Charlotte Richardson MSc (Ecological Consultant), Emily Wordley BSc (Hons) (Ecological Project Officer) and Archie Bird (Ecological Project Officer). Table 4.1 details the weather conditions at the time of the assessment.

Parameter	Condition
Temperature (ºC)	15
Cloud (%)	20
Wind (Beaufort)	F3
Precipitation	Dry

Table 4.1: Weather Conditions During Field Assessment

Each pond was subject to a habitat assessment to determine its suitability to support great crested newts. The findings of this assessment, including the calculated HSI score for each pond surveyed, are provided in Section 4.3. An assessment of the suitability of the site to support great crested newts and the habitat connectivity between ponds and the site was also undertaken. The findings of this assessment are provided in Section 4.4.

4.2 SURVEY CONSTRAINTS

No access constraints were encountered, and the site was able to be fully surveyed. It is worth noting that HSI assessments are designed for use on ponds, not watercourses. However, in this case, the section of the canal located adjacent to the western boundary was treated like a pond, and as such, a comparable assessment could be made.

4.3 HABITAT SUITABILITY INDEX ASSESSMENT

Table 4.2 provides a brief description of each of the surveyed ponds, and assesses the presence or absence of habitat features favoured by great crested newts. The ponds surveyed/excluded during the HSI assessment are shown on Middlemarch Environmental Ltd Drawing C125808-03-01 in the Chapter 7. Photographs of surveyed ponds are provided in Chapter 8.

Attribute	Description
Waterbody P2 (Canal section)	
Description	An 7 m wide canal with vertical banks supported by a mixture of stone and metal sheeting.
Grid Reference	SK 2164 2123.
Pond Area	Approximately 7 m wide, but the length of the canal was unknown. However, it extends beyond the 500 m waterbody search radius, along the western site boundary.
Distance from Development Boundary	Approximately 5 m to the west of the proposed development site.
Permanence	Never dries.
Water Quality	Moderate.
Shade	Approximately 20% of the canal was shaded by the overhanging trees and bramble *Rubus fruticosus* scrub along the western boundary.
Macrophytes	Aquatic vegetation was sparse throughout the canal (<5%).
Egg Laying Habitat	There were limited egg laying opportunities, as aquatic plants were sparse. However, some of the overhanging vegetation which bordered the waterline could potentially be used for egg laying purposes.
Open Courtship Area	The majority of this water feature consisted of open water, so potential open courtship areas were available.
Wildfowl	Minor.
Fish	Major.
Surrounding Terrestrial Habitat	The surrounding terrestrial habitat was considered to be good, as tall ruderal and scrub immediately bordered the canal to the east and west, and woodland, scrub and rough grassland were also identified within the slightly wider surrounding landscape. However, the high walls (both stone and steel) to either bankside boundary were considered to limit potential dispersal opportunities.
Photo Reference (see Chapter 8)	Plate 8.4.
Pond P3	
Description	A large fishing lake with approximately five vegetated islands. Scattered mature and semi-mature willow *Salix sp.* trees bordered the lake to all sides, and tall ruderal/marginal vegetation was also prevalent. Some bare stony banks were noted.
Grid Reference	SK 2156 2086.
Pond Area	Approximately 14.8 ha.
Distance from Development Boundary	Approximately 10 m to the south of the proposed development site.
Permanence	Never dries.
Water Quality	Good.
Shade	Approximately 20% of the waterbody was shaded by the overhanging willow trees to all sides.
Macrophytes	Approximately 10%. Plants recorded included pondweed *Potamogeton sp.* and water lily species *Nymphaea sp.*
Egg Laying Habitat	Fairly limited, as macrophyte cover was sparse.
Open Courtship Area	The majority of this waterbody consisted of open water, so potential open courtship areas were available.
Wildfowl	Major.
Fish	Major.
Surrounding Terrestrial Habitat	The surrounding terrestrial habitat was considered to be good, as tall ruderal, woodland and scrub were present to all sides, and this connected to other suitable habitat within the wider landscape.
Photo Reference (see Chapter 8)	Plate 8.5.
Pond P4	
Description	A large fishing lake of varying depth with steep sides and variable vegetative cover along the boundaries. The waterbody boundaries were dominated by mature and semi-mature willow trees with a tall ruderal understorey.
Grid Reference	SK 2116 2083
Pond Area	Approximately 8.3 ha.
Distance from Development Boundary	Approximately 190 m to the south-west of the proposed development site.

Permanence	Never dries.
Water Quality	Good.
Shade	Approximately 20% of the waterbody was shaded by the overhanging willow trees to all sides.
Macrophytes	Roughly 20%.
Egg Laying Habitat	Limited, as macrophyte cover was relatively sparse.
Open Courtship Area	The majority of this waterbody consisted of open water, so potential open courtship areas were available.
Wildfowl	Minor.
Fish	Major.
Surrounding Terrestrial Habitat	The surrounding terrestrial habitat was considered to be good, as tall ruderal, woodland and scrub were present to all sides, and this connected to other suitable habitat within the surrounding landscape. However, as this pond was located to the south-west of the Trent and Mersey Canal (with its associated stone and steel walls), potential dispersal opportunities towards the site were considered to be limited.
Photo Reference (see Chapter 8)	Plate 8.6.

Table 4.2: Pond Description and Assessment of Habitat Features for Great Crested Newts

The HSI score for each of the ponds assessed is detailed in Table 4.3.

Pond Ref.	HSI Category										HSI Score
	SI 1	SI 2	SI 3	SI 4	SI 5	SI 6	SI 7	SI 8	SI 9	SI 10	
P2	1	0.0	0.9	0.67	1	0.67	0.01	0.95	1	0.4	**0.49 (poor)**
P3	1	0.0	0.9	1	1	0.01	0.01	0.95	1	0.35	**0.31 (poor)**
P4	1	0.0	0.9	1	1	0.67	0.01	0.95	1	0.5	**0.52 (below average)**
Key: SI 1 – Location SI 2 – Pond Area SI 3 – Pond Drying SI 4 – Water Quality SI 5 – Shade						SI 6 – Waterfowl SI 7 – Fish SI 8 – Ponds Within 1km SI 9 – Terrestrial Habitat SI 10 – Macrophytes					

Table 4.3: Habitat Suitability Index of Accessible Ponds Within 500 m of Study Area

4.4 SITE SUITABILITY AND CONNECTIVITY ASSESSMENT

The majority of the site was considered to be sub-optimal for terrestrial great crested newts, as the dominant habitat was poor semi-improved grassland which was recently mown (sward height <15 cm) with limited potential shelter features. However, the hedgerows and scrub located upon the site boundaries were deemed to offer some potential foraging and commuting habitat for terrestrial newts. In addition, the immediately surrounding habitat was considered to be of good value for great crested newts, as woodland areas were located immediately to the east and within close proximity to the south-east, and Branston Water Park with its associated hedgerows, scrub and tall ruderal habitats was located immediately to the south.

Although the surrounding terrestrial habitat was considered to be good, connectivity to the furthest pond surveyed (Pond P4 – 190 m to the south-west) was somewhat limited, as the steep stone and steel bank sides of the Trent and Mersey Canal (Waterbody P2 – 5 m to the west of the site) were likely to inhibit dispersa.. Connectivity was better to Pond P3, but the large size of this pond and the known presence of fish and waterfowl meant that it was unlikely to be suitable for great crested newts (as reflected in the 'poor' HSI score).

5. DISCUSSION AND CONCLUSIONS

5.1 SUMMARY OF SITE PROPOSALS

It is understood that the proposed works will involve the development of the site into residential housing comprising 55 units. The entrance to the site will be through the existing properties of No. 78 and No. 80 Tatenhill Lane and the access road will run parallel to the canal along the north-western boundary of the poor semi-improved grassland field, with a buffer of greenspace maintained between the canal and the access road. It is understood that the hedgerows and scattered trees present on the site boundaries will be retained, however other habitats will be lost to the development.

5.2 DISCUSSION

The results of the HSI index assessment for all ponds surveyed are summarised in Table 5.1.

HSI Score	Pond Suitability for Great Crested Newt	Pond Reference
< 0.5	Poor	P2, P3
0.5 – 0.59	Below average	P4
0.6 – 0.69	Average	-
0.7 – 0.79	Good	-
> 0.8	Excellent	-

Table 5.1: Pond Habitat Suitability Index Results

The results of the HSI assessment indicate that Pond P4 has 'below average' suitability for great crested newts, with Waterbodies P2 and P3 being calculated as 'poor'.

Ponds P3 and P4 were exceptionally large bodies of water (roughly 14.8 ha and 8.3 ha respectively) both of which supported dense populations of fish and waterfowl. Because of this, both of these waterbodies were considered to have very low suitability for great crested newts, as was reflected in the HSI scores. Similarly, Waterbody P2 also supported significant populations of fish, and the watercourse was in regular use by canal boats, meaning that there were very few submerged aquatic plants. These factors meant that Waterbody P2 was also considered to have very low suitability for great crested newts.

5.3 CONCLUSIONS AND SUMMARY OF POTENTIAL IMPACTS

Based on the results of the HSI assessment, it has been concluded that all of the surveyed waterbodies (P2, P3 and P4) located within a 500 m radius of the proposed development site have either 'poor' or 'below average' suitability for great crested newts. The only other ponds which were not subjected to HSI assessment were Pond P1 and P5, one of which was dry (P1) and the other of which was located on the opposite side of the A38 (P5) and two very small garden ponds within the development site boundary which were considered much too small and shallow to provide suitable breeding habitat for great crested newts.

As no desk study records of great crested newts were identified within 1 km of the proposed development site, and as none of the ponds within a 500 m radius of the site were calculated to be particularly suitable for this species. it is considered that great crested newts are not a notable consideration with respect to the proposed works,

Although the pre-formed garden ponds were considered unsuitable for great crested newts (due to their size and lack of suitable open courtship areas), it was deemed possible that other amphibian species could be present. Therefore, a recommendation regarding other amphibian species has been outlined in Section 6.

6. RECOMMENDATIONS

All recommendations provided in this section are based on Middlemarch Environmental Ltd's current understanding of the site proposals (Drawing: BRTL_01_02A – Site Plan CLR by Lioncourt Homes Ltd), correct at the time the report was compiled. Should the proposals alter, the conclusions and recommendations made in the report should be reviewed to ensure that they remain appropriate.

R1 HSI Survey Data

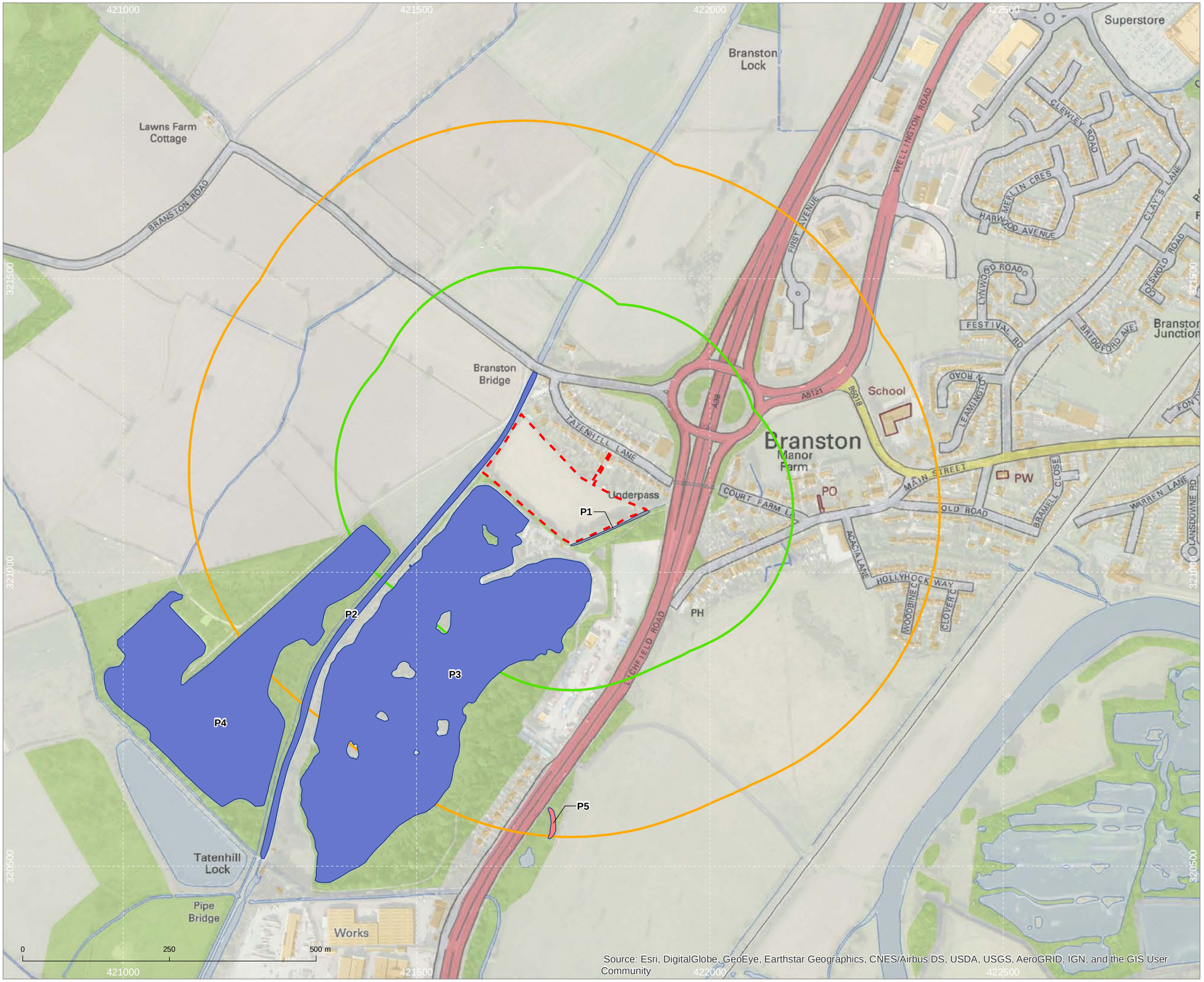
The site assessment revealed that the ponds adjacent to and surrounding the Land off Tatenhill Lane, Branston currently have 'below average' and 'poor' suitability for great crested newts, and as such it is concluded that great crested newts are not a notable consideration in relation to the proposed development. The survey data obtained for the site is valid for 2 years from the survey date. If development works have not commenced within this timeframe it will be essential to update the survey effort to establish if the status of the ponds has changed in the interim. In the unlikely event that a great crested newt is found during development works all works must immediately cease and a suitably qualified ecologist should be contacted.

R2 Other Amphibians

As the pre-formed ponds within the gardens of No. 78 and No. 80 Tatenhill Lane had the potential to support other amphibian species, it is recommended that these be decommissioned under the supervision of a suitably qualified ecologist, in order to ensure that no amphibian species are harmed.

7. DRAWINGS

Drawing C125808-03-01 – Pond Location Plan and Illustration of Ponds Subjected to HSI Assessment



C125808-03-01

Legend

- Waterbody surveyed
- Dry at time of survey
- Pond excluded due to significant dispersal barrier
- 500 m radius from site boundary
- 250 m radius from site boundary
- Site boundary

N

Project	Tatenhill Lane, Burton on Trent
Drawing	Habitat Suitability Index Map
Client	Lioncourt Homes
Drawing Number: C125808-03-01	Revision: 00
Scale @ A3: 1:6,000	Date: July 2017
Approved By: ER	Drawn By: GP

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8. PHOTOGRAPHS

Plate 8.1: Pond P1 which was Dry and Overgrown at the Time of Survey.

Plate 8.2: Pre-formed Pond to the Rear of No. 78 Tatenhill Lane.

Plate 8.3: Pre-formed Pond to the Rear of No. 80 Tatenhill Lane.

Plate 8.4: Waterbody P2 (Canal Section).

Plate 8.5: Pond P3.

Plate 8.6: Pond P4.

REFERENCES AND BIBLIOGRAPHY

ARG UK. (2010). *ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index*. Amphibian and Reptile Groups of the United Kingdom.

Countryside Rights of Way Act, 2000.

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

Gent, A. and Gibson, S. (1998). *Herptofauna Workers Manual*, Joint Nature Conservation Committee, Peterborough.

Joint Nature Conservation Committee (2012). *UK Post-2010 Biodiversity Framework*. Available: http://jncc.defra.gov.uk/pdf/UK_Post2010_Bio-Fwork.pdf

Langton, T., Beckett, C. and Foster, J. (2001). *Great Crested Newt: Conservation Handbook.* Froglife, Suffolk.

Lowland Derbyshire Biodiversity Action Plan (2011).

Middlemarch Environmental Ltd (2017). *Land off Tatenhill Lane, Branston, Burton-on-Trent: Preliminary Ecological Appraisal*. Report RT-MME-125808-01.

Middlemarch Environmental Ltd (2017). *Land off Tatenhill Lane, Branston, Burton-on-Trent: Preliminary Bat Roost Assessment*. Report RT-MME-125808-02.

Middlemarch Environmental Ltd (2013). *78 & 80 Tatenhill Lane, Burton-on-Trent: Extended Phase 1 Habitat Survey*. Report RT-MME-113555-01.

Middlemarch Environmental Ltd (2013). *Initial Bat Survey: 78 & 80 Tatenhill Lane*. Report RT-MME-113555-02.

Middlemarch Environmental Ltd (2011). *Extended Phase 1 Habitat Survey – Land at Tatenhill*. Report RT-MME-107126.

Middlemarch Environmental Ltd (2011). *Great Crested Newt Survey*. Report RT-MME-109617.

Middlemarch Environmental Ltd (2011). *Phase 1 & Initial Bat Survey, 54 Tatenhill Lane*. Report RT-MME-108974.

Middlemarch Environmental Ltd (2010). *Multiple Species Surveys*. Report RT-MME-107305-01 to -04.

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

Staffordshire Biodiversity Action Plan (2001).

The Conservation of Habitats and Species Regulations 2010, as amended.

The Wildlife and Countryside Act, 1981 (as amended).

APPENDIX 1

LEGISLATION

Great crested newts and the places they use for shelter or protection receive European protection under The Conservation of Habitats and Species Regulations 2010 (Habitats Regulations 2010). They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981, as amended. This protection means that great crested newts, and the places they use for shelter or protection, are capable of being a material consideration in the planning process.

Regulation 41 of the Habitats Regulations 2010, states that a person commits an offence if they:

- deliberately capture, injure or kill a great crested newt;
- deliberately disturb great crested newt;
- deliberately take or destroy eggs of a great crested newt; or
- damage or destroy a great crested newt breeding site or resting place.

Disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong.

It is an offence under the Habitats Regulations 2010 for any person to have in his possession or control, to transport, to sell or exchange or to offer for sale, any live or dead great crested newt, part of a great crested newt or anything derived from great crested newt, which has been unlawfully taken from the wild. This legislation applies to all life stages of great crested newt.

Whilst broadly similar to the above legislation, the WCA 1981 (as amended) differs in the following ways:

- Section 9(1) of the WCA makes it an offence to *intentionally* kill, injure or take any protected species.
- Section 9(4)(a) of the WCA makes it an offence to *intentionally or recklessly** damage or destroy, *or obstruct access to*, any structure or place which a protected species uses for shelter or protection.
- Section 9(4)(b) of the WCA makes it an offence to *intentionally or recklessly** disturb any protected species *while it is occupying a structure or place which it uses for shelter or protection*.

*Reckless offences were added by the Countryside and Rights of Way (CRoW) Act 2000.

Great crested newts are listed as Species of Principal Importance on the UK Post-2010 Biodiversity Framework (2012), and as such are material considerations in the planning process. Great crested newts are also listed on both the Staffordshire and Lowland Derbyshire BAP.

ECOLOGY

The great crested newt is the largest of the three newt species in the UK. Like all UK amphibians, they breed within ponds but great crested newts spend the majority of the year on land. Great crested newts prefer to breed in medium to large ponds without fish or significant numbers of waterfowl. Ponds which lack shade on the southern margins appeared to be favoured. Newts enter the ponds to breed in the spring, immediately after they come out of their winter dormancy. The females lay eggs individually on the leaves of aquatic vegetation, and these generally hatch within four weeks, although the exact timing is dependent on environmental conditions. The larvae then stay in the water until the metamorphosing into adult newts (when they lose their external gills) between August and October and are now able to leave the water. Great crested newts can live up to 14 years in the wild and spend most of their lives out of the ponds, foraging at night in areas of undisturbed habitat, favouring rough grassland, scrub and woodland areas. Newts may travel up to 1 km from a breeding pond, but most tend to travel no more than 250 m if the ponds are close to suitable terrestrial habitat. Great crested newts are predators from birth, taking a variety of live prey including aquatic invertebrates, frog tadpoles, slugs, earthworms, spiders and other land invertebrates. Great crested newt hibernate during the winter months in underground crevices, such as gaps between tree roots, or under piles of logs, rubble etc.

Great crested newt populations have declined significantly in Britain, and continental Europe, since the 1940s as a result of habitat loss.