Report Title	**Proposed Car Park Extension to Toyota Garage, Llay New Road, Bradley, Wrexham – Ecological Appraisal**
Date issued	**17th October 2017**
Author	**Max Ellson**
Report Version	**C354/ 1.0**
Client	**Lindop Bros Toyota**
Contract Ref.	**C354**

this report was produced by

marches ecology

Unit 23, The Malthouse Business Centre,
Regent Street, Llangollen, Denbighshire, LL20 8HS
01978 860889

Marches Ecology is the trading name of Marches Ecology LLP, Partnership No. OC362423, Registered in England and Wales. Registered address: Unit 23, The Malthouse Business Centre, Regent Street, Llangollen, Denbighshire, LL20 8HS.

Quality Assurance

Survey/ Assessment Work Schedule		
Survey/Assessment Type	**Surveyors**	**Date**
Extended Phase 1 Habitat Survey	Max Ellson	10/10/17

Review Schedule				
Issue	**Date**	**Author**	**Reviewed by**	**Approved by**
1.0	17/10/17	Max Ellson	Tom Knight	Tom Knight

This report has been prepared by Marches Ecology with all reasonable skill, care and diligence within the terms of the Contract with the client.

The terms of this Contract have been fulfilled by Marches Ecology in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

The evaluation and assessment provided in this report is specific to the iteration of the proposal detailed in *Section 1*. It would no longer be valid should the layout be changed in anyway, should the report be used for a different proposal at the same site or should it be used a maximum of 12 months after the date of issue.

CONTENTS

1 INTRODUCTION 4
1.1 PROJECT BACKGROUND 4
1.2 THE PROPOSAL 4
1.3 LEGISLATION 5
2 METHODOLOGY 7
2.1 FIELD SURVEY 7
2.2 SURVEY CONSTRAINTS 8
3 BASELINE ECOLOGICAL CONDITIONS 9
3.1 CONTEXTUAL INFORMATION 9
3.2 HABITATS AND FLORA 9
3.3 SPECIES/ SPECIES GROUPS 13
4 EVALUATION, POTENTIAL IMPACTS AND RECOMMENDATIONS 17
4.1 INTRODUCTION 17
4.2 EVALUATION, POTENTIAL IMPACTS AND RECOMMENDATIONS 17
5 TARGET NOTES 22
6 REFERENCES 24
7 DATA 26
8 APPENDIX 1 – SPECIES-SPECIFIC LEGISLATION 29

Figure 1 – Extended Phase 1 Habitat Survey

1 INTRODUCTION

1.1 Project Background

1.1.1 Marches Ecology was commissioned by Lindop Bros Toyota to undertake an Ecological Appraisal of land adjacent to the Toyota Garage, Llay New Road, Bradley, Wrexham, LL11 4BA (Approximate OS Grid Ref. SJ 327 536). This Ecological Appraisal comprised an Extended Phase 1 Habitat Survey only. This report is provided as supporting information to a planning application to Wrexham County Borough Council (WCBC) for the extension of an existing car park.

1.1.2 This report has three principal aims:

- to provide an initial appraisal of the ecological value of the site and local ecological resource;
- to detail further surveys that may be required; and
- to identify potential development constraints relating to ecology and outline potential mitigation/ enhancement measures where possible.

1.1.3 This report was produced by Max Ellson of Marches Ecology. Max Ellson is an ecologist with over sixteen years of consultancy experience and has undertaken Extended Phase 1 Habitat Surveys on a wide range of sites. His relevant academic qualifications and professional memberships are as follows:

- Chartered Environmentalist (Society for the Environment).
- Full Member of the Chartered Institute of Ecology and Environmental Management (CIEEM).
- MSc Vegetation Survey and Assessment.
- BSc (Hons) Environmental Biology.

1.2 The Proposal

1.2.1 The proposal concerns the extension of an existing car park. It is illustrated on an HDS Architectural Services plan entitled '*Proposed Car Park Extension to Toyota Garage, Llay New Road, Bradley, Wrexham*', drawing no. JC/PD/01_RevD (dated 12-10-17). Although this plan also indicates minor alterations within the existing Lindop Bros Toyota site, the focus of this Ecological Appraisal is the extension of the car park to the south of the site. This will entail removal of an existing retaining wall, raising ground levels (through importing of soil), realignment and culverting of an existing short length of stream, and provision of new retaining walls and fences around the extended car park. Drawing no. JC/PD/01_RevD also shows small areas of soft landscaping within the car park.

1.2.2 The proposed drainage layout is illustrated on a Kane Design plan entitled '*Proposed Car Park Extension at Toyota Garage, Llay New Road, Wrexham – Drainage Layout Planning*', drawing no 1391/01 (dated 04.09.17).

1.2.3 No further detailed information regarding the proposed development has been provided.

1.3 Legislation

Introduction

1.3.1 This sub-section provides a brief summary of key legislation relevant to ecology/ nature conservation and the proposal. It should not be considered a comprehensive review and is not meant to be so. It is provided here for information only and is not intended to replace specialised legal advice. It does not replace the text of the legislation, but summarises the salient points. Further information on how this legislation affects the protection of particular species of potential relevance to this proposal is provided in *Appendix 1*.

The Conservation of Habitats and Species Regulations 2010, as amended (The Regulations)

1.3.2 Transposes the *EC Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora 1992* into UK law. The Regulations provide for the protection of sites in the UK that support habitats and species of European importance (*e.g*. Special Protection Areas (SPAs) and Special Areas of Conservation (SACs)). The Regulations also provide full protection for certain species which are frequently referred to as European Protected Species (EPS). EPS of potential relevance to the site include are limited to Otter (*Lutra lutra*).

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

1.3.3 The WCA strengthened protection for nature conservation sites of at least national importance, and provides varying levels of protection for a number of species within the UK. This protection may include prohibition of some or all of: killing, injuring, disturbing, taking, sale/barter or possession of species and also protection of breeding/ sheltering places. The following species/ species groups receive some level of protection under the WCA and are of relevance to the proposal; bats and birds. The WCA also prohibits the spread of certain non-native invasive species (*e.g*. Cotoneaster).

The Countryside and Rights of Way Act 2000 (The CRoW Act)

1.3.4 The CRoW Act includes legislation in relation to the Biodiversity Action Plan; more stringent management, protection and consenting measures for SSSIs; greater penalties for wildlife crime; and greater protection for species listed in the WCA. Some of this legislation was superseded by the NERC Act.

The Natural Environment and Rural Communities Act 2006 (The NERC Act)

1.3.5 *Sections 40* to *42* of the NERC Act replace *Section 74* of the CRoW Act. *Section 40* of the NERC Act extends to all public authorities (including local planning authorities) the existing *Section 74* duty to have regard to biodiversity as far as is consistent with the proper exercise of their functions. In addition, *Sections 41* (England) and *42* (Wales) provide a list of species and habitats of principal importance for conservation of biological diversity. Government has a statutory duty to promote steps “to further the conservation” of habitats and species listed in *Sections 41* and *42*.

Environment (Wales) Act 2016

1.3.6 The Environment Act enhances and replaces the current NERC Act (*Section 40*) duty to require all public authorities, when carrying out their functions in Wales, to seek to ‘maintain and enhance biodiversity’ where it is within the proper exercise of their functions. In doing so, public authorities must also seek to ‘promote the resilience of ecosystems’. *Section 7* of

the Environment Act provides a list of the living organisms and habitats of principal importance for the purpose of maintaining and enhancing biodiversity in Wales. This list replaces that previously provided in *Section 42* of the NERC Act.

***The Protection of Badgers Act 1992* (The Badgers Act)**

1.3.7 The Badgers Act provides for the protection of Badgers and their setts. This legal protection is provided for welfare rather than the conservation value of the species.

2 METHODOLOGY

2.1 Field Survey

Extended Phase 1 Habitat Survey

2.1.1 The Extended Phase 1 Habitat Survey was carried out on 10th October 2017 by Max Ellson of Marches Ecology. The Extended Phase 1 Habitat plan is provided as *Figure 1*. The survey focussed on the footprint of the proposed car park extension as well as an approximately 50 m buffer (in vegetated habitats/ on the western side of Llay New Road, and where access was provided). This area is henceforth referred to as the 'survey site'; refer to *Figure 1*. The 50 m buffer was principally included to enable Badger (*Meles meles*) setts to be located. Immediately adjacent habitat was considered where appropriate and viewed from the survey site boundary where possible. The weather during the survey was largely sunny and warm; there had been rain the preceding night.

2.1.2 The standard initial habitat survey method is Phase 1 Habitat Survey. It involves identifying areas or features of particular interest either in terms of their botanical interest, and/or habitat potential for protected or other notable species.

2.1.3 The Phase 1 Habitat Survey has been adapted in this instance as an 'extended' Phase 1 Habitat Survey, where more information has been obtained to inform site assessment. The methods used centre on the Phase 1 Habitat Survey approach (JNCC 2010) as extended for use in Environmental Impact Assessment (Institute of Environmental Assessment 1995). Extended Phase 1 Habitat Survey is necessarily a more holistic approach than Phase 1 Habitat Survey and provides an understanding of habitat use by faunal groups (IEEM 2005). This involves the following elements:

- Habitat mapping using a set of standard colour codes to indicate habitat types on a Phase 1 Habitat map.
- Description of features of ecological or nature conservation interest in notes relating to numbered locations on the Phase 1 Habitat map, called target notes. Target notes are recorded for habitat and features of possible botanical interest and features relating to animals including protected/ notable vertebrates that are likely to occur in the region and within the survey site. Evidence of activity was noted when encountered. The Target Notes are provided in *Section 5* and shown on *Figure 1*.

2.1.4 In addition to the habitat map and target notes, a plant species list was compiled (provided in *Table 1, Section 7*). Plant nomenclature in this report follows Stace (2010). Although October is outside the accepted survey period for Extended Phase 1 Habitat Surveys, it is unrealistic to suppose that walk-through surveys can generate completely exhaustive species lists at any time of year. It is considered that the list in this report indicates the character of the vegetation and the ecological value of the area inspected.

2.1.5 Further information describing the assessment conducted during the Extended Phase 1 Habitat Survey for particular species is provided briefly below:

- Badger. Areas within the survey site that might be used by Badger for foraging and sett building were assessed. Incidental foraging signs, tree scratching, paths, latrines and setts were recorded if found (Harris *et al.*, 1989).

- Bats. The potential value of the habitat for roosting/ foraging/ commuting was assessed in accordance with *Table 4.1* provided in Collins (2016).
- Water Vole. The potential value of available habitat for Water Voles (*Arvicola amphibius*) was assessed in accordance with guidance provided in Dean *et al*. (2016) and JNCC (2004a).
- Great Crested Newt. The quality of terrestrial habitat for Great Crested Newts (*Triturus cristatus*) was assessed.
- Reptiles. A qualitative assessment of the habitat for reptiles was undertaken. The survey involved identifying potential basking areas, hibernation sites and foraging habitat. English Nature (2004) provides further information on the distribution and ecology of the four widespread species. Habitat requirements differ between species but are summarised in Edgar *et al*. (2010).
- Birds. The habitat within the survey site was assessed for its potential value for breeding birds based on guidance provided in *e.g*. JNCC (2004b).

2.2 Survey Constraints

2.2.1 The following may be considered survey constraints:

- October is outside the accepted period for undertaking an Extended Phase 1 Habitat Survey. However, considering the character of the habitat present and the mild Autumn up to the point of survey this constraint is not considered to be significant.
- Some of the boundaries of the survey site are not physically marked.
- Some parts of the survey site support dense scrub/ vegetation, which it was not possible to enter/ directly search. This may have obscured some signs of protected species.
- Browsing/ trampling by livestock in some parts of the survey site may have obscured some evidence of the presence of particular species.
- No background data search has been undertaken to inform the survey and this report. This approach was agreed as acceptable with Emma Broad (WCBC, Ecology and Biodiversity Officer) (via an email dated 09th October 2017).

3 BASELINE ECOLOGICAL CONDITIONS

3.1 Contextual Information

3.1.1 Although a data search has not been undertaken, Emma Broad has provided a plan (attached to an email dated 09th October 2017) which indicates the locations of local Wildlife Sites (WS) as well as a small number of Great Crested Newt records. The nearest WS is located approximately 178 m to the south of the proposed car park extension footprint (as opposed to the survey site and as indicated on drawing no. JC/PD/01_RevD) and is associated with Fishpond Wood and a connected area of marshland. Great Crested Newt records are further detailed below in *Section 3.3.*

3.2 Habitats and Flora

Context

3.2.1 The survey site extends to approximately 0.6 hectares. It is located immediately to the south of the Lindop Bros Toyota site and to the immediate west of Llay New Road. It is on the edge of open countryside which extends west/ south and eastwards (either side of Llay New Road). Wrexham city centre is located approximately 3.4 km to the southeast. To the north of the Lindop Bros Toyota site lies the settlement of Bradley.

3.2.2 The survey site is dominated by agricultural fields supporting improved grassland, which is grazed by livestock. It also includes scrub/ scrub-woodland habitats located on banks between the fields and Llay New Road. The northern boundary of the survey site is formed either by a retaining wall (separating the site from existing car parking facilities associated with Lindop Bros Toyota) or a fence/ shrubs (separating the site from housing/ gardens). Llay New Road forms the eastern boundary. The southern/ western boundaries are undefined, being largely located in an improved grassland field.

Site Description

Introduction

3.2.3 The Extended Phase 1 Habitat map is provided as *Figure 1*. The Target Notes (no's 1-7 for the survey site and 8-10 for adjacent land) are provided in *Section 5*/ shown on *Figure 1*.

Scrub and Scrub-woodland

3.2.4 A road-side bank to the immediate east of the proposed car park extension footprint is characterised by an unmanaged old hedgerow/ mature scrub line (*Target Note 5*). The woody resource is dominated by *Crataegus monogyna* (Hawthorn) with lesser amounts of *Sambucus nigra* (Elder), *Rosa canina* agg. (Dog-rose) and *Fraxinus excelsior* (Ash) saplings. It is approximately 4-5 m wide and occasionally overhangs the adjacent field at *Target Note 1.* Locally, adjacent to the culvert at *Target Note 2,* much of the woody resource is dead. The ground layer appears species-poor being either bare, characterised by a carpet of *Hedera helix* (Ivy) or dominated by tall-herbs.

Scrub line at *Target Note 5.*

3.2.5 Further south a larger road-side bank supports mature scrub-woodland (*Target Note 6*); for ease this has been mapped as dense scrub on *Figure 1*. The canopy is dominated by mature Hawthorn with occasional mature *Acer pseudoplatanus* (Sycamore) and Ash trees, and lesser amounts of Elder. The shrub layer includes locally abundant *Ilex aquifolium* (Holly) and *Rubus fruticosus* agg. (Bramble) with occasional Elder and saplings of, for example, Ash, *Corylus avellana* (Hazel), Elder and *Aesculus hippocastanum* (Horse-chestnut). The ground layer is dominated by a carpet of Ivy with typical shade-tolerant herbs.

Scrub-woodland on road-side bank at *Target Note 6.* Photo taken from opposite side of Llay New Road.

Grassland

3.2.6 Improved grassland characterises a small field unit (*Target Notes 1* and *1a*) in which the proposed car park extension footprint is located, and an adjacent field at *Target Note 7* (a small part of which is within the survey site).

3.2.7 At *Target Note 1* the grassland is disturbed and appears to be frequently accessed by livestock (Cows). The sward height is mostly to 0.2 m, although it can be higher where tall-herbs predominate. There is frequent puddling/ bare earth, particularly towards the top of the slope/ field unit. The sward is dominated by grasses, which are in turn dominated by *Lolium perenne* (Perennial Rye-grass), with other species at lower levels of abundance. A range of typical grassland forbs/ tall-herbs are scattered throughout. Tall-herbs such as *Urtica dioica* (Common Nettle) and *Cirsium arvense* (Creeping Thistle) occasionally form small distinct stands, especially at the edges of the field unit (too small to map on *Figure 1*). The grassland at *Target Note 7* provides a similar, although less disturbed resource.

Improved grassland at *Target Note 1*. Photo taken from western boundary of small field-unit.

3.2.8 *Target Note 1a* describes part of the improved grassland field located at the base of the slope/ adjacent to a retaining wall (*Target Note 3*), the species composition of which is slightly different to the wider field unit. It is thought that this reflects occasional flooding when the culvert (*Target Note 2*) is blocked. The frequency/ longevity and timing of any such occurrence is unknown. Along with many of the species present within the wider field unit, here the sward is characterised by abundant *Polygonum aviculare* (Knotgrass) and *Agrostis stolonifera* (Creeping Bent), with occasional *Alopecurus geniculatus* (Marsh Foxtail), and lesser amounts of *Veronica beccabunga* (Brooklime) and *Juncus bufonius* (Toad Rush).

Occasionally flooded improved grassland at *Target Note 1a* – indicated by the browner part of the sward.

3.2.9 Elsewhere within the survey site there is a narrow zone of rough grassland adjacent to Llay New Road at *Target Note 5.*

Other Habitats

3.2.10 Other habitats/ features within the survey site are limited to a man-made soil mound (*Target Note 1b*), a short length of stream at *Target Note 2* (described further below), a retaining wall at *Target Note 3* and two piles of discarded materials (*Target Notes 4* and *7a*). *Target Note 7b* describes a possible historic ditch/ stream line which appears to have been culverted.

3.2.11 The stream at *Target Note 2* is approximately 8 m in length. It originates from a pipe with an approximately 0.2 m wide diameter and ends at a culvert (which is understood to pass under the adjacent road). The culvert appears to be blocked by silt/ vegetation – no pipe or other opening was visible. The stream channel is approximately 1 m wide at most with moderate flowing water to 0.1 m depth (frequently less than 0.02 m) over silt and stones. It is mostly vegetated with abundant *Nasturtium aquaticum* (Water-cress), frequent Brooklime and *Glyceria fluitans* (Floating Sweet-grass), and occasional *Ranunculus sceleratus* (Celery-leaved Buttercup). It appears to be frequently accessed by livestock.

Short section of stream at *Target Note 2.*

Immediately Adjacent Habitats

3.1.12 Immediately adjacent habitats include a fenced boundary with scattered mature shrubs and a mature *Quercus robur* (Pedunculate Oak) at *Target Note 8*, and a mature coniferous hedge (*Target Note 9*).

3.3 Species/ Species Groups

Badger

3.3.1 No setts or evidence of Badger activity were recorded within the survey site. Opportunities for sett construction are largely limited to the two stands of road-side scrub(-woodland) at *Target Notes 5* and *6.*

3.3.2 The improved grassland resource at *Target Notes 1/1a* and *7* provides high potential value for foraging however no evidence was observed. It is possible that stock trampling/ puddling may have obscured some signs.

Bats

3.3.3 Mature trees within/ immediately adjacent to the survey site are restricted to a small number of Sycamore and Ash trees within the scrub woodland at *Target Note 6* and a mature Oak at *Target Note 8.* As these trees will not be (in)directly impacted by the proposal, detailed assessment with regards their potential to support bat roosts was not undertaken.

3.3.4 The retaining wall at *Target Note 3* provides a small number of features of very low/ negligible potential for roosting bats. The wall comprises of mortared block stone to approximately 1.75-2.25 m in height, with an approximately 0.75 m high parapet variously constructed of breeze blocks/ bricks with concrete slab coping stones. The parapet is approximately 0.25 m wide. This structure appears to be largely in good condition.

- At *Target Note 3a*, there is a jagged crack down the height of the block stone with the gaps being approximately 0.02-0.03 m in width. These appear to extend approximately 0.2 m at most into the wall and are characterised by debris and cobwebs.
- At *Target Note 3b* there is a small hole in the parapet (presumed to be from a missing half brick) which appears to extend to approximately 0.1 m in depth; it is unknown if this leads to further features within the parapet itself.
- Elsewhere there are very occasional small/ shallow 'holes' where mortar has broken free (to 0.2 m in length at most), and at the interface of the block stone and parapet.

Detail of retaining wall at *Target Notes 3, 3a* and *3b.*

3.3.5 The improved grassland which dominates the survey site is unlikely to provide any particular foraging resources for bats. Potential foraging/ commuting features are largely limited to boundary habitats such as the scrub(-woodland) resource at *Target Notes 5* and *6* which

extends further to the south along Llay New Road, and possibly the northern boundary with gardens at *Target Note 8.* Taking the paucity of habitats and the small overall size into account the habitat resource is assessed as being of low-moderate value in accordance with Collins (2016).

Water Vole

3.3.6 The short section of stream at *Target Note 2* appears to be frequently disturbed by livestock, with access throughout by Cows – the banks comprise short grazed vegetation. It is also isolated in the landscape. No evidence of Water Vole was recorded during the Extended Phase 1 Habitat Survey and it is considered that this feature can be discounted as providing potential habitat for Water Vole. As such, further surveys and or mitigation measures are not considered necessary and this species will not be considered further in this report.

Great Crested Newt

3.3.7 There is no aquatic habitat within the survey site of potential value for Great Crested Newts. The short length of stream at *Target Note 2* is flowing and does not provide any breeding potential. Although a small area of grassland (*Target Note 1a*) adjacent to the retaining wall appears to be occasionally flooded when the on-site culvert is blocked, the frequency/ longevity and timing of any such occurrence is unknown. However, assuming that it does flood occasionally this resource is deemed unlikely to be of any particular value for breeding (but may, for example, provide potential aquatic foraging habitat).

3.3.8 The terrestrial habitat afforded by the improved grassland fields at *Target Notes 1/1a* and *7* are of low potential quality for Great Crested Newts; they provide grazed/ disturbed grassland where potential refugia opportunities are likely to be restricted to features such as small mammal holes. Foraging opportunities are likely to be limited. Should they be present, animals would be able to pass across the grassland however it does not provide a distinct dispersal corridor. There are two small areas of discarded waste at *Target Notes 4* and *7a* which provide potential refugia. Terrestrial habitat of potentially moderate/ high quality for this species within the survey site is limited to the road-side banks at *Target Notes 5* and *6* which support mature scrub/ tall-herbs/ tussocky rough grassland and scrub-woodland respectively; these features could also be used for dispersal.

3.3.9 An initial review of the OS map 1:25, 000 scale and relevant internet-based mapping/ aerial photography[1], indicates that there may be three ponds, as well as marshland and a small number of drains within approximately 500 m of the proposed car park extension footprint (as opposed to the survey site and as indicated on drawing no. JC/PD/01_RevD), as follows:

- a pond at SJ 328 534, approximately 160 m to the southeast (on the opposite side of Llay New Road), near Gwersyllt Hall Farm. This was viewed from a public-right-of-way (PROW) during the Extended Phase 1 Habitat Survey and was found to provide a flowing 'on-stream' feature within wet woodland. It is not deemed suitable for breeding Great Crested Newts;
- a pond at SJ 324 535, approximately 290 m to the southwest located within an improved grassland field. This was also viewed from a PROW during the Extended Phase 1

[1] https://www.google.co.uk/maps/place/Bradley,+Wrexham/@53.075434,-3.0086833,1360m/data=!3m1!1e3!4m5!3m4!1s0x487ac661cccdd0f5:0x4c2ef6b8c082507f!8m2!3d53.0780815!4d-3.0074299

Habitat Survey; it provides a small pond accessed by Cows and with poor water quality/ vegetation structure; it is deemed to be of low suitability for breeding Great Crested Newts;

- an area of marshland at SJ 324 534, approximately 320 m to the southwest at its closest point;
- a network of several drains at SJ 324 537, approximately 375 m to the west/ northwest (on the opposite side of housing and Glan Llyn Road); and
- a pond at SJ 327 532, approximately 395 m to the south.

3.3.10 A detailed pond scoping exercise has not been undertaken and as such the potential value of many of these waterbodies to Great Crested Newts and/ or the potential presence of other waterbodies has not been determined.

3.3.11 In addition to the above, Emma Broad has provided a plan (attached to an email dated 09th October 2017) which indicates that there are five Great Crested Newt records (details unknown) within the 500 m search area, including two from the marshland at SJ 324 534, one from the network of drains at SJ 324 537 and one from the pond at SJ 327 532. None of these records are located within 250 m of the proposed car park extension footprint.

Reptiles

3.3.12 No reptiles were seen during the Extended Phase 1 Habitat Survey. The survey site is dominated by improved agricultural grassland which provides negligible potential value for reptiles. Although the two waste piles at *Target Notes 4* and *7a* could be utilised as refugia, these are isolated from other potentially suitable habitat. Likewise, the tall-herb/ rough grassland edges of the scrub habitat at *Target Note 5* provide potential habitat, however this is a small and isolated road-side feature. As such, further surveys and or mitigation measures are not considered necessary for reptiles and this species group will not be considered further in this report.

Birds

3.3.13 Opportunities for nesting birds within the survey site are largely restricted to the road-side scrub(-woodland) resource at *Target Notes 5* and *6.*

4 EVALUATION, POTENTIAL IMPACTS AND RECOMMENDATIONS

4.1 Introduction

4.1.1 Brief details regarding the proposal are provided in *Section 1.2*. An assessment of ecological issues based on the information provided is detailed below and considers:

- further survey requirements; and
- potential development constraints and associated avoidance/ mitigation requirements.

These are dealt with in turn for habitats and flora, and specific species groups in the section below.

4.1.2 For non-mobile ecological resources potential ecological issues are only considered where such resources might be directly or indirectly impacted where possible, *e.g.* they are located within or directly adjacent to the proposed car park extension footprint (and not the remainder of the survey site). Resources that would not be impacted (*e.g*. the scrub-woodland at *Target Note 6*, the field/ associated features at *Target Note 7/7a/7b,* the mature Oak tree at *Target Note 8* and the coniferous hedgerow at *Target Note 9*) are not considered.

4.1.3 No further detailed information regarding the proposed development has been provided. In the absence of such information potential impacts have been considered with reference to the plans/ information provided only.

4.2 Evaluation, Potential Impacts and Recommendations

Local Wildlife Sites

4.2.1 Due to the small scale/ location of the proposal, no potential issues with regards WSs are envisaged.

Habitats

4.2.2 The proposed car park extension footprint and immediately adjacent area includes the following habitat resources/ features:

- Improved grassland (including part of a soil mound) at *Target Note 1/1a/1b*;
- A short length of stream at *Target Note 2;*
- A retaining wall at *Target Notes 3/3a/3b*;
- A small waste pile (potential amphibian refugia) at *Target Note 4*; and
- Adjacent scrub at *Target Notes 5* and *8*.

The habitats outside the application site (unless immediately adjacent to it) have not been assessed here as it is assumed that they would not be impacted by the proposal.

4.2.3 All of the habitats/ features listed above are considered to be of no more than site value[2].

4.2.4 No further survey of the habitat within the survey site is currently considered necessary to support the application.

4.2.5 Review of drawing no. JC/PD/01_RevD indicates that direct impacts associated with the proposal would be limited to the following habitats/ features:

- Improved grassland (including part of a soil mound) at *Target Note 1/1a/1b*;
- A short length of stream at *Target Note 2;*
- A retaining wall at *Target Notes 3/3a/3b*; and
- A small waste pile (potential amphibian refugia) at *Target Note 4*.

4.2.6 The loss of these habitats/ features is not considered to be a significant adverse effect at a local level. However, it is recommended that the following habitats/ features are retained and protected wherever possible during the construction phase:

- Adjacent scrub at *Target Notes 5* and *8.*

4.2.7 It should be ensured that these features are protected in particular when retaining walls are constructed on the edge of the car park footprint. In addition, general best practice measures should be implemented during the construction to avoid any indirect impacts (*e.g*. dust, diffuse and water-borne pollution, *etc.*) on retained/ adjacent habitat. A suitable temporary protective fence (*e.g*. heras) should be installed along the boundaries of the construction site prior to the start of any preparatory or construction works. This fence should remain in-situ until the completion of the construction. No access/ storage of materials/ construction work, *etc.* should be allowed beyond this fence.

4.2.8 Due to the works involving culverting of the short section of stream, standard environmental management procedures for the protection of waterbodies should be implemented during the construction phase. Measures to protect the stream (from sediment release, sediment run-off, pollution by fuel and oil and other accidental spillages during construction) will be required to be implemented. The general advice contained in the Pollution Prevention Guidance (PPG) leaflets produced by SEPA, EA and the Environment and Heritage Service (Northern Ireland) will be adhered to, particularly the following:

- PPG1: Understanding Your Environmental Responsibilities - Good Environmental Practices.
- PPG5: Works and Maintenance in or Near Water.
- PPG6: Working at Construction and Demolition Sites.
- PPG7: The Safe Operation of Refuelling Facilities.

As well as:

- SEPA (2009). *Engineering in the Water Environment Good Practice Guide: Temporary Construction Methods*. First Edition, March 2009 (WAT-SG-29).

[2] CIEEM (2016) recommends the use of geographical context as a frame of reference for identifying the importance (value) of ecological features. The frame of reference has the following categories: International/ European - National - Regional - Metropolitan/County/Vice-county/ other local-authority wide area - Local. Within this report Local is defined as relating to district or parish; less than local refers to features of value at a Site level.

4.2.9 Technical Advice Note 5: Nature Conservation and Planning (Welsh Assembly Government 2009) seeks development to achieve net biodiversity gain. Drawing no. JC/PD/01_RevD illustrates the location of a small number of soft-landscaping areas within the car park footprint. These will be established with appropriately sized pollinator friendly shrubs/ trees (*e.g*. from https://www.rhs.org.uk/science/pdf/conservation-and-biodiversity/wildlife/rh). Where possible British native and plants of local provenance will be utilised. It is also proposed (subject to landowner permission) to enhance the scrub resource at *Target Note 5,* particularly in the vicinity of the existing culvert, where many dead stems are currently evident. A range of British native shrubs will be utilised, including Hawthorn, Hazel, Holly, Elder and Dog-rose. Once established this will be left un/ infrequently managed in line with the existing resource.

Flora

4.2.10 No species of plant listed in categories (above Least Concern) in the most recent Vascular Plant Red Data List for Wales (Dines 2008) and no plants of local importance (as described in Williams (2014)) were recorded from the survey site. No species of plant listed on *Schedule 9* of the *Wildlife & Countryside Act 1981* (as amended) was recorded from the survey site. No further survey of the flora within the survey site and no specific mitigation measures are currently considered necessary.

Fauna

Badger

4.2.11 No setts or evidence of Badger activity were recorded within the survey site and potential sett excavation opportunities within/ immediately adjacent to the proposed car park extension footprint are largely limited to the road-side embankments at *Target Note 5* and *6.*

4.2.12 As no evidence of Badger activity was recorded no mitigation measures are proposed. However, a sett could be excavated subsequent to the completion of this survey – as such if any large animal hole is located by site workers (or Badgers are otherwise suspected to be present) during the construction period, all works should cease and an ecologist be contacted for advice. Furthermore, if site clearance/ construction work is not implemented within 12 months of the Extended Phase 1 Habitat Survey then the site should be re-surveyed by a suitably qualified ecologist to check for any setts. This approach has been agreed with Emma Broad (via email, dated 17th October 2017).

4.2.13 The proposal would result in the loss of a small amount of potentially high quality potential foraging habitat but is unlikely to interfere with Badger movement across the landscape at this location. The small loss of this potential foraging resource would not have a significant impact on Badgers.

Bats

4.2.14 No trees with bat roost potential are to be (in)directly impacted by the proposals. The retaining wall at *Target Note 3* will be lost as part of the proposal. This provides a very small number of features (small cracks/ holes/ gaps in mortar) (for example *Target Notes 3a* and *3b*) which are of very low/ negligible potential for roosting bats. As such in this instance it has been agreed with Emma Broad (via email, dated 17th October 2017) that a precautionary pre-works check by a licenced bat ecologist will be undertaken. This will focus on checking the potential roost features with an endoscope/ high-powered torch for bats or evidence thereof. Should bats/ evidence be located all works would need to immediately cease and

could not recommence until a Natural Resources Wales (NRW) 'development' licence had been obtained. Considering the low/ negligible potential for roosting bats afforded by the retaining wall, no compensation measures are deemed necessary at this stage.

4.2.15 Whilst the habitat resource provided by the survey site has been assessed as being of low-moderate value for foraging/ commuting bats, the proposed car park extension footprint will result in the loss of improved grassland and a short section of isolated stream only. As such potential impacts to foraging/ commuting bats are deemed negligible and no further survey or specific mitigation measures are considered necessary.

4.2.16 Artificial lighting can have an adverse effect on bats (The Bat Conservation Trust 2014). No information has been provided on proposed lighting for the car park however if required this should follow guidance provided by The Bat Conservation Trust (2014) and Institution of Lighting Engineers (2011). Adjacent scrub habitats should be kept as dark as possible.

Great Crested Newt

4.2.17 There is no aquatic habitat (suitable for breeding Great Crested Newts) within the survey site. The proposed car park extension footprint will directly impact grazed/ disturbed improved grassland including part of a soil mound (which has been assessed of potential high quality), a short section of stream and an area of discarded waste (potential refugia).

4.2.18 The potential presence of Great Crested Newts in terrestrial habitat is governed more by the proximity of a suitable breeding waterbody than by the quality of the terrestrial habitat. Three ponds, as well as marshland and a small number of drains have been identified within approximately 500 m of the proposed car park extension footprint from internet-based mapping/ aerial photography.

4.2.19 There appears to be only one permanent waterbody within 250 m – this being an on-stream 'pond' near Gwersyllt Hall Farm. This was viewed during the Extended Phase 1 Habitat Survey and is not deemed suitable for breeding. Within 250-500 m there appear to be two ponds, as well as an area of marsh and several drains. The nearest such feature is a pond located approximately 290 m from the proposed car park extension footprint. This was viewed during the Extended Phase 1 Habitat Survey further to which it was concluded to be of low suitability for breeding. The nearest known record is from the area of marshland approximately 350 m from the proposed car park extension footprint.

4.2.20 Overall the car park footprint represents a small area of low quality terrestrial habitat which is fairly isolated in the landscape, being adjacent to built development and a road. Due to the scale of the proposal, limited loss of terrestrial habitat, and the perceived lack of suitable breeding ponds/ known Great Crested Newt records within 250 m, the risk that Great Crested Newts could be found within the proposed car park extension footprint site is considered to be low/ negligible. It is considered appropriate in this instance to implement non-licensed Reasonable Avoidance Measures (RAMs) prior to and during the construction phase. This approach has been agreed with Emma Broad (via email, dated 17th October 2017). A non-licensed approach does have the inherent risk that should a Great Crested Newt be found at any time all work would need to immediately cease and could not recommence until a NRW 'development' licence had been obtained.

Birds

4.2.21 The proposal would not require the permanent removal of any potential bird nesting habitat. However, it is understood that overhanging scrub vegetation (at *Target Notes 5* and *8*) may

be cut back to allow the car park to be constructed; this is concluded to be a negligible impact. As such no further survey for birds is deemed necessary (other than a pre-work check should work be undertaken during the nesting season as detailed below).

4.2.22 The destruction of any bird nests that are in use is illegal. The simplest option to avoid issues arising from the presence of nesting birds is to schedule work that affects nesting habitat (*e.g*. cutting back of overhanging scrub) outside the nesting period (March to August inclusive). Such work also should seek to ensure that, as far as is possible, all areas within the footprint of the proposed works remain unattractive to breeding birds for the duration of the work. Should any occupied nests be found during the construction phase, a buffer zone (determined on the basis of the species concerned and the location of the nest in the context of the surrounding vegetation, but no less than 5 m) would be retained until it can be ascertained that the chicks have left the nest. The buffer zone will be appropriately fenced and signed. The temporary protective fencing as detailed above will protect habitat beyond the zone of influence that does support nesting birds.

4.2.23 If it is not possible to cut back of overhanging scrub outside the nesting season all such areas should be checked by a suitably qualified ecologist prior to commencement of works. If any active nests are found at this time a buffer zone as detailed above would be provided.

4.2.24 The proposed scrub enhancement as detailed in *paragraph 4.2.9* will provide an enhancement for nesting birds in the medium-/ long-term. This would be in line with TAN 5.

5 TARGET NOTES

Target Note 1. A small field unit sloping in an approximate south-north direction and supporting (disturbed) improved grassland. It appears to be frequently accessed by livestock (Cows) although none were present during the survey. The sward height is mostly to 0.2 m, although it can be higher where tall-herbs predominate. There is frequent puddling/ bare earth, particularly towards the top of the slope/ field unit. The sward is dominated by grasses, which are in turn dominated by *Lolium perenne* (Perennial Rye-grass), with other species at lower levels of abundance such as *Poa annua* (Annual Meadow-grass), *Agrostis stolonifera* (Creeping Bent), *Holcus lanatus* (Yorkshire-fog) and *Dactylis glomerata* (Cock's-foot). A range of typical grassland forbs/ tall-herbs are scattered throughout such as abundant *Ranunculus repens* (Creeping Buttercup), frequent/ locally abundant *Trifolium repens* (White Clover) and *Rumex obtusifolius* (Broad-leaved Dock), frequent *Stellaria media* (Common Chickweed), occasional/ locally abundant *Urtica dioica* (Common Nettle) and *Cirsium arvense* (Creeping Thistle), and lesser amounts of *e.g*. *Plantago major* (Greater Plantain), *Trifolium pratense* (Red Clover), *Taraxacum* sect. *Ruderalia* (Common Dandelion), *Senecio jacobaea* (Common Ragwort), *Matricaria discoidea* (Pineappleweed), *Polygonum aviculare* (Knotgrass)*, Persicaria maculosa* (Redshank), and *Senecio vulgaris* (Groundsel). Tall-herbs such as Common Nettle and Creeping Thistle occasionally form small distinct stands, especially at the edges of the field unit, although these are too small to map on *Figure 1.*

Target Note 1a. At the base of the slope/ adjacent to a retaining wall (*Target Note 3*) the species composition of the improved grassland is slightly different to the wider field unit. It is thought that this reflects occasional flooding when the culvert (*Target Note 2*) is blocked. The frequency/ longevity and timing of any such occurrence is unknown. Along with many of the species present within the wider field unit, here the sward is characterised by abundant Knotgrass and Creeping Bent, with occasional *Alopecurus geniculatus* (Marsh Foxtail), and lesser amounts of *Veronica beccabunga* (Brooklime) and *Juncus bufonius* (Toad Rush).

Target Note 1b. A soil mound within the improved field, to approximately 4-5 m in height. It has been disturbed by livestock and is characterised by a mosaic of bare earth, Common Nettle/ Creeping Thistle tall-herb vegetation, improved grassland and ruderal vegetation; this mosaic is too small to map on *Figure 1.* On the northern end of the soil mound there are several 'wetland' plants present, such as *Nasturtium aquaticum* (Water-cress), *Ranunculus sceleratus* (Celery-leaved Buttercup) and *Glyceria fluitans* (Floating Sweet-grass); it is thought that this is likely to have developed from arisings associated with clearance works to the stream/ culvert (*Target Note 2*).

Target Note 2. A short (approximately 8 m) section of stream flowing west-east. This originates from a pipe with an approximately 0.2 m wide diameter and ends at a culvert (which is understood to pass under the adjacent road). The culvert appears to be blocked by silt/ vegetation – no pipe or other opening was visible. The stream channel is approximately 1 m wide at most with moderate flowing water to 0.1 m depth (frequently less than 0.02 m) over silt and stones. It is mostly vegetated with abundant Water-cress, frequent Brooklime and Floating Sweet-grass, and occasional Celery-leaved Buttercup. It appears to be frequently accessed by livestock.

Target Note 3. A retaining wall comprising of mortared block stone to approximately 1.75-2.25 m in height, with an approximately 0.75 m high parapet variously constructed of breeze blocks/ bricks with concrete slab coping stones. The parapet is approximately 0.25 m wide. This structure appears to be largely in good condition. At *Target Note 3a*, there is a jagged crack down the height of the block stone with the gaps being approximately 0.02-0.03 m in width. These appear to extend approximately 0.2 m at most into the wall and are characterised by debris and cobwebs. *Target Note 3b* comprises a small hole in the parapet (presumed to be from a missing half brick) which appears to extend to approximately 0.1 m in depth; it is unknown if this leads to further features within the parapet itself. Elsewhere there are very occasional small/ shallow 'holes' where mortar has broken free (to 0.2 m in length at most), and at the interface of the block stone and parapet.

Target Note 4. Scattered discarded materials including a tyre, breeze blocks, metal sheeting and old fence posts with associated tall-herb vegetation. Could provide refugia for amphibians.

Target Note 5. An unmanaged old hedgerow/ mature scrub line on a road-side bank, with associated tall-herb vegetation and a narrow zone of rough grassland adjacent to a pavement/ road. The woody resource is dominated by *Crataegus monogyna* (Hawthorn) with lesser amounts of *Sambucus nigra* (Elder), *Rosa canina* agg. (Dog-rose) and *Fraxinus excelsior* (Ash) saplings. It is approximately 4-5 m wide and occasionally overhangs the adjacent field at *Target Note 1.* Locally, adjacent to the culvert at *Target Note 2,* much of the woody resource is dead. The ground layer appears species-poor being either bare, characterised by a carpet of *Hedera helix* (Ivy) or dominated by tall-herbs (such as Common Nettle, *Alliaria petiolata* (Garlic Mustard), Redshank and scrambling *Solanum dulcamara* (Bittersweet)). The adjacent tall-herb resource is dominated by Common Nettle with a range of typical associates such as locally abundant *Aegopodium podagraria* (Ground-elder), occasional *Stachys sylvatica* (Hedge Woundwort), *Galium aparine* (Cleavers), *Heracleum sphondylium* (Hogweed), Broad-leaved Dock and *Anthriscus sylvestris* (Cow Parsley). The rough grassland is dominated by the tussocky grass Cock's-foot with lesser amounts of *Arrhenatherum elatius* (False Oat-grass) and Perennial Rye-grass; typical forbs and tall-herbs are scattered throughout (generally at low level of abundance), such as Common Nettle, *Centaurea nigra* (Common Knapweed), *Plantago lanceolata* (Ribwort Plantain), Cow Parsley, *Achillea millefolium* (Yarrow), *Potentilla reptans* (Creeping Cinquefoil) and White Clover.

Target Note 6. Mature scrub-woodland (although mapped as dense scrub on *Figure 1*) on a road-side bank. The canopy is dominated by mature Hawthorn with occasional mature *Acer pseudoplatanus* (Sycamore) and Ash trees, and lesser amounts of Elder. The shrub layer includes locally abundant *Ilex aquifolium* (Holly) and *Rubus fruticosus* agg. (Bramble) with occasional Elder and saplings of, for example, Ash, *Corylus avellana* (Hazel), Elder and *Aesculus hippocastanum* (Horse-chestnut). The ground layer is dominated by a carpet of Ivy with typical shade-tolerant herbs such as *Geum urbanum* (Wood Avens) and *Geranium robertianum* (Herb-robert). Common Nettle can be frequent, especially towards the base of the slope/ adjacent to the road.

Target Note 7. An improved grassland field grazed by livestock (Cows), although none were present during the survey. The sward height is mostly to 0.1 m. The species composition is similar to that recorded at *Target Note 1.* The sward is dominated by grasses, which are in turn dominated by *Lolium perenne* (Perennial Rye-grass), with other species at lower levels of abundance such as Annual Meadow-grass, *Agrostis capillaris* (Common Bent), *Cynosurus cristatus* (Crested Dog's-tail), Yorkshire-fog and Cock's-foot. A range of typical grassland forbs/ tall-herbs are scattered throughout. At *Target Note 7a* there are scattered discarded materials (including metal sheeting, old fence posts and branches) which could provide refugia for amphibians. *Target Note 7b* indicates the possible alignment of an old ditch/ stream (as depicted on OS maps); although there is a slight dip in the ground present, there is no watercourse present here – the ground is slightly wet underfoot but the vegetation comprises improved grassland and/ or Common Nettle.

Target Note 8. [Outside the survey site]. Various mature shrubs are scattered along this fenced boundary which separates the improved grassland field at *Target Note 7* from adjacent housing/ gardens. There is also a mature *Quercus robur* (Pedunculate Oak) tree.

Target Note 9. [Outside the survey site]. A mature coniferous hedge, not assessed in detail.

6 REFERENCES

Bat Conservation Trust (2014). *Artificial Lighting and Wildlife. Interim Guidance: Recommendations to Help Minimise the Impact of Artificial Lighting*.

CIEEM (2016). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester.

Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edn)*. The Bat Conservation Trust, London.

Dean, M., Strachan, R., Gow, D. & Andrews, R. (2016). *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series)*. Eds Fiona Mathews & Paul Chanin. The Mammal Society, London.

Dines, T. (2008). *A Vascular Plant Red Data List for Wales*. Plantlife International, Salisbury.

Edgar, P., Foster, J. and Baker, J. (2010). *Reptile Habitat Management Handbook*. Amphibian and Reptile Conservation, Bournemouth.

English Nature (2004). *Reptiles: guidelines for developers*. English Nature, Peterborough.

Harris, S., Cresswell, P., & Jeffries, D. (1989). *Surveying Badgers*. Occasional Publication No. 9, The Mammal Society.

HMSO (1981). *The Wildlife and Countryside Act 1981*. HMSO, London.

HMSO (1992). *The Protection of Badgers Act 1992*. HMSO, London.

HMSO (2000). *The Countryside and Rights of Way Act 2000*. HMSO, London.

HMSO (2006). *The Natural Environment and Rural Communities Act 2006*. HMSO, London.

HMSO (2010). *The Conservation of Habitats and Species Regulations 2010*. HMSO, London.

HMSO (2012). *The Conservation of Habitats and Species (Amendment) Regulations 2012*. HMSO, London.

HMSO (2016). *The Environment Act (Wales) 2016*. HMSO, London.

Institute of Ecology and Environmental Management (2005). *Guidance on Survey Methodology*. Unpublished.

Institute of Environmental Assessment (1995). *Guidelines for Baseline Ecological Assessment*. E & FN Spon, London.

Institution of Lighting Engineers (2011). *Guidance Notes for the Reduction of Obtrusive Light*. GN01: 2011.

JNCC (2004a). *Common Standards Monitoring for Terrestrial Mammals, Version August 2004*. ISSN 1743-8160.

JNCC (2004b). *Common Standards Monitoring Guidance for Birds. Version August 2004*. Joint Nature Conservation Committee, Peterborough.

JNCC (2010). *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit*. Joint Nature Conservation Committee, Peterborough. Available online: http://jncc.defra.gov.uk/PDF/pub10_handbookforphase1habitatsurvey.pdf

SEPA (2009). *Engineering in the Water Environment Good Practice Guide: Temporary Construction Methods*. First Edition, March 2009 (WAT-SG-29).

Stace, C. (2010; 3rd Edition). *New Flora of the British Isles*. Cambridge University Press, Cambridge.

Welsh Government (2009). *Planning Policy Wales - Technical Advice Note 5: Nature Conservation and Planning*. September 2009.

Williams, D. (2014). *Denbighshire (VC50) County Rare Plant Register*. Botanical Society of Britain & Ireland.

7 DATA

Table 1 – Vascular plant species recorded within the survey site during the Extended Phase 1 Habitat Survey

Plant species	Within proposed car park extension footprint?
Acer pseudoplatanus (Sycamore)	
Aesculus hippocastanum (Horse-chestnut)	
Corylus avellana (Hazel)	
Crataegus monogyna (Hawthorn)	✓
Fraxinus excelsior (Ash)	
Ilex aquifolium (Holly)	
Prunus domestic spp. *insititia* (Bullace)	
Prunus spinosa (Blackthorn)	
Sambucus nigra (Elder)	
Quercus robur (Pedunculate Oak)	
Rosa canina agg. (Dog-rose)	
Achillea millefolium (Yarrow)	
Aegopodium podagraria (Ground-elder)	
Agrostis capillaris (Common Bent)	
Agrostis stolonifera (Creeping Bent)	✓
Alliaria petiolata (Garlic Mustard)	✓
Alopecurus geniculatus (Marsh Foxtail)	✓
Anthriscus sylvestris (Cow Parsley)	✓
Apium nodiflorum (Fool's Water-cress)	✓
Arctium minus (Lesser Burdock)	
Arrhenatherum elatius (False Oat-grass)	
Artemisia vulgaris (Mugwort)	
Asplenium scolopendrium (Harts-tongue)	✓
Asplenium trichomanes ssp. *trichomanes* (Maidenhair Spleenwort)	✓
Atriplex sp. (an Orache)	✓
Bellis perennis (Daisy)	
Calystegia sepium (Hedge Bindweed)	
Capsella bursa-pastoris (Shepherd's-purse)	✓
Cardamine flexuosa (Wavy Bitter-cress)	✓

Plant species	Within proposed car park extension footprint?
Centaurea nigra (Common Knapweed)	
Cerastium fontanum (Common Mouse-ear)	✓
Cirsium arvense (Creeping thistle)	✓
Cirsium vulgaris (Spear Thistle)	✓
Cynosurus cristatus (Crested Dog's-tail)	
Dactylis glomerata (Cock's-foot)	✓
Dryopteris filix-mas (Male-fern)	
Elytrigia repens (Common Couch)	✓
Epilobium hirsutum (Great Willowherb)	✓
Epilobium montanum (Broad-leaved Willowherb)	✓
Festuca rubra (Red Fescue)	✓
Fumaria sp. (a Fumitory)	✓
Galium aparine (Cleavers)	✓
Geranium molle (Dove's-foot Crane's-bill)	✓
Geranium robertianum (Herb-robert)	
Geum urbanum (Wood Avens)	
Glyceria fluitans (Floating Sweet-grass)	✓
Hedera helix (Ivy)	✓
Heracleum sphondylium (Hogweed)	
Holcus lanatus (Yorkshire-fog)	✓
Juncus bufonius (Toad Rush)	✓
Juncus effusus (Soft-rush)	✓
Lamium album (White Dead-nettle)	✓
Lamium purpureum (Red Dead-nettle)	✓
Lapsana communis (Nipplewort)	✓
Lolium perenne (Perennial rye-grass)	✓
Lycopersicon esculentum (Tomato)	✓
Matricaria discoidea (Pineappleweed)	✓
Nasturtium aquaticum (Water-cress)	✓
Persicaria maculosa (Redshank)	✓
Plantago lanceolata (Ribwort Plantain)	✓
Plantago major (Greater Plantain)	✓
Poa annua (Annual Meadow-grass)	✓
Polygonum aviculare (Knotgrass)	✓

Plant species	Within proposed car park extension footprint?
Potentilla reptans (Creeping Cinquefoil)	
Prunella vulgaris (Selfheal)	✓
Ranunculus repens (Creeping Buttercup)	✓
Ranunculus sceleratus (Celery-leaved Buttercup)	✓
Rubus fruticosus agg. (Bramble)	✓
Rumex acetosa (Common Sorrel)	
Rumex obtusifolius (Broad-leaved Dock)	✓
Senecio jacobaea (Common Ragwort)	✓
Senecio vulgaris (Groundsel)	✓
Silene latifolia (White Campion)	✓
Solanum dulcamara (Bittersweet)	
Sonchus oleraceus (Smooth Sow-thistle)	✓
Stachys sylvatica (Hedge Woundwort)	✓
Stellaria media (Common Chickweed)	✓
Taraxacum sect. *Ruderalia* (Common Dandelion)	✓
Trifolium dubium (Lesser Trefoil)	✓
Trifolium pratense (Red Clover)	✓
Trifolium repens (White Clover)	✓
Urtica dioica (Common Nettle)	✓
Veronica beccabunga (Brooklime)	✓
Veronica persica (Common Field-speedwell)	✓
Veronica serpyllifolia (Thyme-leaved Speedwell)	✓
Vicia sativa (Common Vetch)	✓

8 APPENDIX 1 – SPECIES-SPECIFIC LEGISLATION

8.1 Introduction

8.1.1 The species-specific legislation below is presented here due either to the actual or suspected/ possible presence of each species on the site or within the zone of influence and is therefore considered to be relevant for this study.

8.1.2 This sub-section provides a brief summary of key relevant species legislation. It should not be considered a comprehensive review and is not meant to be so. It is provided here for information only and is not intended to replace specialised legal advice. It does not replace the text of the legislation, but summarises the salient points.

8.2 Badger

8.2.1 The Badger is protected in Britain under the *Protection of Badgers Act 1992* and *Schedule 6* of the *Wildlife and Countryside Act 1981* (as amended). The legislation affords protection to Badger and Badger setts, and makes it a criminal offence to:

- wilfully kill, injure, take, possess or cruelly ill-treat a Badger, or attempt to do so;
- interfere with a sett by damaging or destroying it;
- to obstruct access to, or any entrance of, a Badger sett; or
- to disturb a Badger when it is occupying a sett.

8.3 Bats

8.3.1 All species of British bat are listed on *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), and receive full protection under *Section 9*. They are also listed as European Protected Species on *Schedule 2* of *The Conservation of Habitats and Species Regulations 2010* (as amended) which gives them full protection under *Regulation 40(1)*. Protection was extended by the *Countryside and Rights of Way Act 2000* (the *CRoW Act 2000*).

8.3.2 Under the above legislation it is an offence to intentionally or recklessly:

- kill, injure or take an individual of such a species;
- possess any part of such species either alive or dead;
- damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- disturb such a species whilst using any place of shelter or protection; or
- sell or attempt to sell any such species.

8.3.3 Several species of bat are included on *Section 7* of the *Environment Act 2016*.

8.3.4 All species of British bat are also protected under *Schedule 6* of the *Wildlife and Countryside Act 1981* (as amended). This protection relates specifically to trapping and direct pursuit of the species.

8.4 Great Crested Newt

8.4.1 Great Crested Newts are listed on *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), and receive full protection under *Section 9*. The 1981 Act was amended by the *Countryside and Rights of Way Act 2000* (the CRoW Act) which further extends the protection. It is also listed on *Annexes II* and *IV* of the European Union Directive on Natural Habitats and Wild Fauna and Flora (*Council Directive 92/43/EEC*), which is implemented in

the UK by *The Conservation of Habitats and Species Regulations 2010* (as amended). It is included on *Schedule 2* of the Habitats Regulations which gives it full protection under *Regulation 40(1)*. The Great Crested Newt is therefore a so-called European Protected Species. The legislation applies to all life stages of the Great Crested Newt, including eggs, larvae, juveniles and adults.

8.4.2 Under the above legislation it is an offence to intentionally or recklessly:

- kill, injure or take an individual of such a species;
- possess any part of such species either alive or dead;
- damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- disturb such a species whilst using any place of shelter or protection; or
- sell or attempt to sell any such species.

8.4.3 Great Crested Newt is included on *Section 7* of the *Environment Act 2016*.

8.5 **Birds**

8.5.1 All species of bird are protected under *Section 1* of the *Wildlife and Countryside Act 1981* (as amended). The protection was extended by the *CRoW Act 2000*.

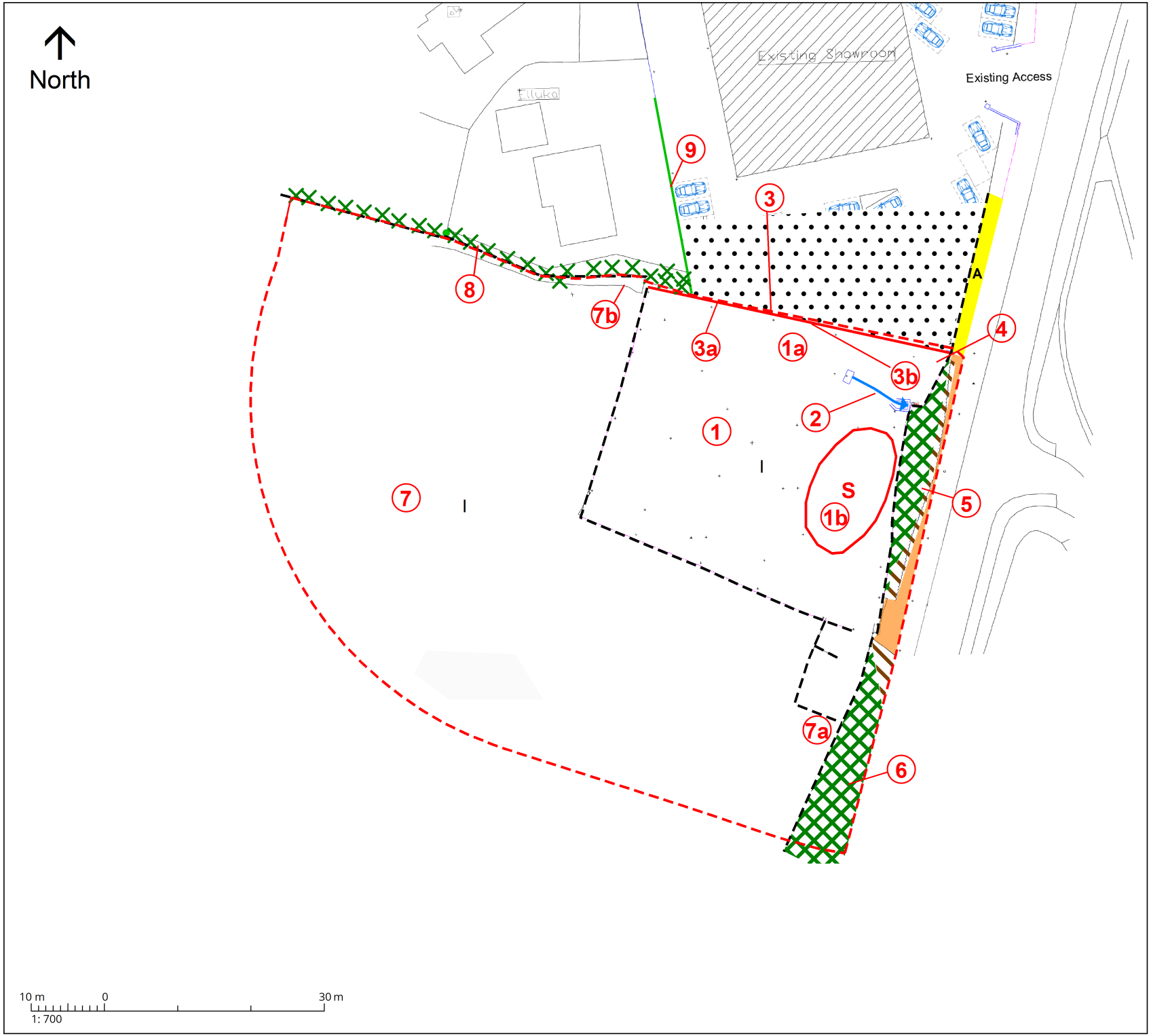
8.5.2 The legislation makes it an offence to intentionally or recklessly:

- kill, injure or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
- take or destroy an egg of any wild bird.

8.5.3 Certain species of bird are listed on *Schedule 1* of the *Wildlife and Countryside Act 1981* (as amended) and receive protection under *Sections 1(4)* and *1(5)* of the Act. The legislation confers special penalties where the above mentioned offences are committed for any such bird and also make it an offence to intentionally or recklessly:

- disturb any such bird, whilst building its nest or it is in or near a nest containing dependant young; or
- disturb the dependant young of such a bird.

8.5.4 *Section 7* of the *Environment Act 2016* includes several birds.



Dense/ continuous scrub

Individual broad-leaved tree

Scattered scrub

Coniferous hedge

Rough grassland

Amenity grassland

Improved grassland

Tall ruderal

Running water

Wall

Fence

Hard-standing

Spoil

Target Note

Survey site boundary

C354 Proposed Car Park Extension to Toyota Garage, Llay New Road, Bradley, Wrexham - Ecological Appraisal

***Figure 1* - Extended Phase 1 Habitat Survey**

Date: 12/10/2017

marches ecology

www.marchesecology.co.uk

Base mapping provided by an HDS Architectural Services plan.