

Ecological Impact Assessment



Land East of Lodge Road, Hurst
21st November 2024



**Tyler
Grange**

TG Report No. 16542_R02b_MJ

Project No:	Report No.	Date	
16542	R02b	21st November 2024	
Revision	Author	Checked	Approved
a	Mari Jones BSc (Hons) MSc	Jessica Whittaker BSc (Hons) MSc	Carly Goodman-Smith MBiolSci MCIEEM
b			

Disclosure:

This report, all plans, illustrations, and other associated material remains the property of Tyler Grange Group Ltd until paid for in full. Copyright and intellectual property rights remain with Tyler Grange Group Ltd.

The contents of this report are valid at the time of writing. Tyler Grange shall not be liable for any use of this report other than for the purposes for which it was produced. Owing to the dynamic nature of ecological, landscape, and arboricultural resources, if more than twelve months have elapsed since the date of this report, further advice must be taken before you rely on the contents of this report. Notwithstanding any provision of the Tyler Grange Group Ltd Terms & Conditions, Tyler Grange Group Ltd shall not be liable for any losses (howsoever incurred) arising as a result of reliance by the client or any third party on this report more than 12 months after the date of this report.



Contents:

Summary	
Section 1: Introduction and Context	2
Section 2: Ecological Features and Evaluation	5
Section 3: Ecological Impacts, Mitigation, and Enhancement	13
Section 4: Biodiversity Net Gain	19
Section 5: Conclusions	26

Appendices:

Appendix 1: Parameters Plan	
Appendix 2: Legislation and Planning Policy	
Appendix 3: Methodology and Results	
Appendix 4: Illustrative Masterplan	
Appendix 5: SureScreen GCN_Report_2928-2024	

Plans:

Plan 1: Habitat Features and Ground Level Tree Assessment Plan 16452/P03b	
Plan 2: Waterbodies Plan 16452/P04	
Plan 3: Badger Survey Results Plan 16452/P05	
Plan 4: Bat Activity Survey Plan 16452/P06a	
Plan 5: Reptile Survey Results Plan 16452/P08	
Plan 6: Post-development Habitats Plan 16452/P09	
Plan 7: Modular River Physical Survey Plan 16452/P10	



Summary

- S.1. This report has been prepared by Tyler Grange Group Limited (TG) on behalf of Mactaggart and Mickel Strategic Land. It sets out the findings of an Ecological Impact Assessment for Land East of Lodge Road, Hurst, hereinafter referred to as the 'site'. The proposals are for up to 99 residential units with associated access and landscaping.
- S.2. A UK Habitat Classification survey and Preliminary Bat Roost Assessment was undertaken on the 12th December 2024. A summary of the results are as follows:
- The site is comprised of modified grassland (negligible ecological importance), native hedgerows with trees, lines of trees, native hedgerows, and ditches (all of local ecological importance, with the hedgerows being priority habitats); and
 - The site contains habitats that could support great crested newt *Triturus cristatus*, roosting bats, commuting and foraging bats, nesting birds, reptiles, and badger *Meles meles*.
- S.3. In terms of protected sites, three statutory and 18 non-statutory sites were considered in the assessment, with no impacts anticipated provided standard best-practice pollution prevention measures are adhered to.
- S.4. Habitats of negligible ecological importance to be lost to the development, such as modified grassland, require no specific mitigation. Habitats of low ecological importance to be lost, such as small sections of hedgerow, will be more than compensated for through replacement planting in the form of native species tree and grassland planting. Retained and enhanced habitats of importance, namely hedgerows, a line of trees, and ditches, will be protected during the construction phase through the implementation of a Construction and Environment Management Plan and tree protection as indicated in the TG Preliminary Arboricultural Assessment 16452/R01a and any future Arboricultural Method Statement.
- S.5. Species-specific enhancements recommended within this report, which include native planting, and provision of bat /bird boxes and reptile refugia, would enhance the site for wildlife. Habitat creation is expected to increase the habitat diversity on site providing a range of nesting, foraging and commuting opportunities for species such as badgers, bats, birds, great crested newt and reptiles.
- S.6. The biodiversity net gain assessment found that the proposals would result in a net gain of 5.12 habitat units, 3.06 hedgerow units, and 1.05 watercourse units. This is a percentage gain of 10.82% in habitat units, 22.74% in hedgerow units, and 23.75% in watercourse units. The gain in habitats, hedgerows, and watercourse would comply with the Environment Act and Town and Country Planning Act, as well as the National Planning Policy Framework (NPPF).
- S.7. It is concluded that the proposed development complies with relevant policy and legislation regarding biodiversity, including policy CP7 of the Wokingham Borough Local Development Framework: Adopted Core Strategy Development Plan, policies CC03 and TB23 of the Wokingham Borough Development Plan: Adopted Managing Development Delivery Local Plan, and policy SS1 Local Plan Update: Revised Growth Strategy Consultation.



Section 1: Introduction and Context

Introduction

- 1.1. This report has been prepared by Tyler Grange Group Ltd on behalf of Mactaggart and Mickel Strategic Land. It sets out the findings of an Ecological Impact Assessment (EclA) for land east of Lodge Road, Hurst (OS Grid Reference SU 79474 73694), hereafter referred to as the 'site'. See **Figure 1.1** for the indicative red line boundary.



Figure 1.1: Indicative red line boundary (© Google Aerial Imagery 2024)

- 1.2. This assessment has been undertaken to inform an outline planning application for up to 99 new homes, green infrastructure, open space, pedestrian and cycle links, recreational facilities and other associated infrastructure including offsite highways works and access points on Lodge Road and Tape Lane with required improvements (all matters reserved except access). The proposed development Parameter Plan is included at **Appendix 1** to the rear of this report.

Site Context

- 1.3. The site is approximately 10.5 ha in size and comprises modified grassland, native hedgerows with trees, lines of trees, native hedgerows, and ditches. The entirety of the site is grazed by horses and donkeys. The village of Hurst lies immediately to the south and east, and to the west lies Lodge Road (B3030) and beyond that various grasslands and woodlands along the River Loddon.
- 1.4. The site was subject to a previous application, with surveys being carried out by Ecology Solutions Ltd in 2021 and 2022. As the site is being put forward for an entirely new application, surveys are being updated at the time of writing to ensure this EclA is based on up-to-date and robust survey data.

Purpose

- 1.5. This report:
- Uses available background data and results of the field surveys to describe and evaluate the ecological features present within the likely "Zone of Influence"¹ (Zol) of the proposed development;
 - Describes the actual or potential ecological issues and opportunities that might arise as a result of the site's development.
 - Where appropriate, makes commitments for mitigation measures for adverse effects on ecological features as well as ecological enhancements, to ensure conformity with policy and legislation listed in **Appendix 2**; and
 - Can be used to inform a planning application for the site's development.
- 1.6. This assessment and the terminology used are consistent with the Guidelines for Preliminary Ecological Appraisal² and the Guidelines for Ecological Impact Assessment³. A full methodology is set out in **Appendix 3**.

Methodology

- 1.7. Full methods for the data search, UK Habitat Classification (UKHabs) survey, species surveys, Modular River Physical Survey (MoRPh) and Biodiversity Net Gain (BNG) assessment can be found in **Appendix 3**.

Quality Control

- 1.8. All ecologists at Tyler Grange Group Limited are members of the Chartered Institute of Ecology and Environmental Management (CIEEM) or are working towards membership and act under the direction of members. All abide by the Institute's Code of Professional Conduct⁴.

Limitations and Assumptions

- 1.9. A full 30 m radius of the site was not surveyed for badger setts, due to access into neighbouring private properties being limited. However, the areas which could not be surveyed were roads, active allotments, and private gardens, which are not considered optimal for badger sett creation. Assuming a pre-works badger check is carried out as recommended in **Section 3** below, this is not considered to affect the conclusions of this report.

¹ Defined by the CIEEM (2018) Guidelines for Ecological Impact Assessment as the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities. This is likely to extend beyond the project site, for example where there are ecological or hydrological links beyond the site boundaries

² CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

³ CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.

⁴ CIEEM (2022) Code of Professional Conduct, CIEEM, Winchester



- 1.10. Two trees have been added to the BNG baseline; assumptions on the size of these trees have been noted in **Appendix 3**.



Section 2: Ecological Features and Evaluation

Designated Sites

- 2.1. The data search was based on records purchased from Thames Valley Environmental Records Centre (TVERC), as well as data from the Multi-Agency Geographic Information for the Countryside (MAGIC). See **Appendix 3** for full methodology.
- 2.2. The data search returned one Natura 2000/Ramsar site within 10 km of the site, and three statutory and 18 non-statutory designated sites within 2 km of the site. These are detailed in **Table 2.1** below.
- 2.3. The Loddon Valley Gravel Pits Biodiversity Opportunity Area (BOA) lies directly adjacent to the west of the site. The Loddon Valley Gravel Pits BOA is not a designated site, but an area identified for opportunities to enhance biodiversity. Opportunities for this designation, as stated in the BOA description returned by TVERC, are as follows:

"Co-ordinated management of gravel pits to enhance biodiversity, management of Wokingham Council owned sites to enhance biodiversity, management of wet woodland habitat, re-creation of fen and grassland habitats. Mineral extraction provides further opportunities to enhance biodiversity. Significant areas of land are managed by Wokingham Council."

- 2.4. In addition, Waltham to Binfield Woodlands and Parklands BOA is 0.3 km east of the site, with target opportunities set out as:

"[...] management and restoration of woodland. The relative lack of other habitat makes this a good target area for additional woodland planting although there is good potential to recreate and to restore and extend the remaining lowland meadow habitats and there is also farmland bird interest. Parkland management. Fen management and restoration, including removal of some wet woodland. Management for farmland birds."



Table 2.1: Designated Sites

Designated site	Distance and direction from site	Citation	Ecological Importance
Thames Basin Heaths Special Protection Area (SPA)	9.6 km south	Breeding populations of the following Annex I bird species: Dartford warbler <i>Sylvia undata</i> , nightjar <i>Caprimulgus europaeus</i> and woodlark <i>Lullula arborea</i> .	International
Lodge Wood & Sandford Mill Site of Special Scientific Interest (SSSI)	0.6 km west	Wet woodland and its population of Loddon lily <i>Leucojum aestivum</i> .	National
Lavell's Lake Local Nature Reserve (LNR)	1.0 km southwest	Resident and migratory waterfowl populations.	Local
Alder Moors LNR	1.5 km west	Coppiced ancient woodland with alder <i>Alnus glutinosa</i> , as well as woodland ground flora.	
Berkshire Proposed Local Wildlife Site (LWS): Land adjacent to Vine Cottage, Hurst	0.1 km southeast	Possible wet woodland.	
Loddon River (part) LWS	0.4 km west	Riparian habitats along with Loddon pondweed <i>Potamogeton nodosus</i> and water vole <i>Arvicola amphibius</i> .	
Lea Farm LWS	0.6 km west	A lake from an old gravel pit, important to overwintering birds.	
Lavell's Lake LWS	1.0 km southwest	Wintering birds including snipe <i>Gallinago gallinago</i> , redshank <i>Tringa totanus</i> , and bittern <i>Botaurus stellaris</i> .	
Whistley Mill Farm Copse LWS	1.1 km north	Woodland adjacent to the River Loddon, though not wet woodland.	
Dinton Pastures Country Park LWS	1.2 southwest	Old gravel pits managed for recreation and nature conservation.	
Charvil Country Park West & Charvil Meadows LWS	1.4 km northwest	A variety of lowland, acid, and calcareous grassland areas, along with fen, floodplain grazing marsh, and woodlands.	
Sandford Fen Copse LWS	1.4 km west	Wet woodland with some areas of open marshy habitat.	
Alder Moors LWS	1.5 km west	Ancient woodland, also a LNR.	
Wood Nr Hintonhatch Corner LWS	1.6 northeast	Lowland mixed deciduous woodland, with a pond and an area of plantation to the west.	
Berkshire Aviation Museum LWS	1.7 km west	Raised grass verges around the museum car park, notable for tower mustard <i>Turritis glabra</i> .	
Alder Moors LWS	1.7 km northwest	Parcels of woodland, some with ancient woodland indicator species present.	
Twyford Gravel Pits (Loddon Reserve & Charvil Country Park) LWS	1.8 north	Overwintering and breeding birds, as well as invertebrates.	
Loddon Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust	1.8 north	Flooded gravel pits with islands, important for overwintering birds.	
Furze Covert LWS	1.9 km south	Mixed woodland, long established.	
Sandpit Copse LWS	2.0 km northwest	Ash <i>Fraxinus excelsior</i> and hazel <i>Corylus avellana</i> woodland, with alder in wetter areas.	

Habitats and Flora

2.5. The habitats present on site are summarised below in **Table 2.2**, along with a description of the composition of the main plant species present and an assessment of their ecological importance. The location of habitats are shown on the Habitat Features and Ground Level Tree Assessment Plan **16452/P03b**. The habitat name given under the Biodiversity Net Gain (BNG) Statutory metric is considered the default habitat name within this report.

Table 2.2: Habitats and Flora

Habitat	Description and Species	Ecological Importance	Photograph
<u>Statutory BNG Habitat:</u> Modified grassland <u>Primary code:</u> g4 Modified grassland <u>Secondary code(s):</u> 81 Ruderal or ephemeral 103 Horse grazed	Grassland grazed by horses and donkeys. Sward was relatively uniform throughout, with occasional patchy dominance of common nettle <i>Urtica dioica</i> and Himalayan balsam <i>Impatiens glandulifera</i>. Main species included Yorkshire fog <i>Holcus lanatus</i>, perennial rye-grass <i>Lolium perenne</i>, broad-leaved dock <i>Rumex obtusifolius</i>, and creeping buttercup <i>Ranunculus repens</i>. Whilst forbs, particularly buttercups, created a taller sward in summer, overall the sward height was fairly uniform with apparent grazing pressure/poaching throughout.	This habitat is very common in the wider landscape, and has limited biodiversity value, therefore is it considered to be of negligible ecological importance.	
<u>Statutory BNG Habitat:</u> Ecologically valuable line of trees associated with ditch <u>Primary code:</u> w Woodland and forest <u>Secondary code(s):</u> 34 Ecologically valuable line of trees 50 Ditch	Labelled TL1 and TL3; rows of mature and veteran trees along ditches (including part of Hatchgate Ditches). Species include oak <i>Quercus robur</i>, ash, and hazel. The ditch in this area is overgrown with nettle and bramble <i>Rubus fruticosus agg.</i>, and appears to have once been culverted at the northern point of TL1, however this culvert is now blocked.	This habitat is common in the wider landscape, but valuable due to the mature/veteran oak trees. Therefore this habitat is considered to be of local ecological importance.	
<u>Statutory BNG Habitat:</u> Native hedgerow with trees <u>Primary code:</u> h2a Native hedgerow <u>Secondary code(s):</u> 11 Hedgerow with trees	A hedgerow (H2) with significant bramble, as well as oak, ash, cherry plum <i>Prunus cerasifera</i>, and blackthorn <i>Prunus spinosa</i>.	This habitat is common in the wider landscape, but valuable due to the mature/veteran oak trees and connectivity provided to the wider landscape. Therefore this habitat is considered to be of local ecological importance. The hedgerow is a Habitat of Principle Importance⁵ (HoPI) as it is over 20m, less than 5m wide, and more than 80% of its length is comprised of native woody species.	

⁵ JNCC, 2016, UK Biodiversity Action Plan Priority Habitat Descriptions: Hedgerows, Available at: <https://data.jncc.gov.uk/data/ca179c55-3e9d-4e95-abd9-4edb2347c3b6/UKBAP-BAPHabitats-17-Hedgerows.pdf>



<u>Statutory BNG Habitat:</u> Ecologically valuable line of trees <u>Primary code:</u> w Woodland and forest <u>Secondary code(s):</u> 34 Ecologically valuable line of trees	A series of mature oak trees with some ash, labelled TL4 and TL5, along the northern borders of the site. TL5 had some Himalayan balsam in the ground flora, which was encroaching into the grassland.	This habitat is common in the wider landscape, but valuable due to the mature oak trees. Therefore this habitat is considered to be of local ecological importance.	
<u>Statutory BNG Habitat:</u> Native hedgerow <u>Primary code:</u> h2a Native hedgerow <u>Secondary code(s):</u> N/A	A species-poor hedgerow of native species such as hawthorn <i>Crataegus monogyna</i>.	This habitat is very common in the wider landscape, has some biodiversity value and provides connectivity into neighbouring habitats therefore is it considered to be of local ecological importance. The hedgerow is a HoPI as it is over 20m, less than 5m wide, and more than 80% of its length is comprised of native woody species.	
<u>Statutory BNG Habitat:</u> Ditch <u>Primary code:</u> r2b Other rivers and streams <u>Secondary code(s):</u> 50 Ditch	Ditches along the western (D1) and southern (D2) boundaries of the site. Water levels appear to vary throughout the year and depends on recent rainfall. A few riparian plant species were noted: yellow flag <i>Iris pseudacorus</i>, ivy-leaved duckweed <i>Lemna trisulca</i>, and creeping buttercup. The western ditch D1 is classified as a 'main river' by the Environment Agency⁶, and is referred to as Hatchgate Ditches. This terminates at the northern point of TL1.	This habitat is very common in the wider landscape, has some biodiversity value and provides connectivity into neighbouring habitats, therefore is it considered to be of local ecological importance.	

⁶ Environment Agency (2019) Main river map for England: proposed changes and decisions, Available at: <https://www.gov.uk/government/collections/main-river-map-for-england-proposed-changes-and-decisions> [Accessed 09/07/2024]

Protected and Notable Species

- 2.6. The below section sets out the potential for protected species on site. Species which are considered likely absent from the site based on professional judgement, following consideration of the habitats within the site, signs of species presence at the time of survey and data search records, are not discussed.

Amphibians

- 2.7. The data search returned 21 records of common frog *Rana temporaria*, seven records of common toad *Bufo bufo*, 47 records of great crested newt (GCN) *Triturus cristatus*, and four records of smooth newt *Lissotriton vulgaris* within 2 km of the site in the last 10 years.

Great Crested Newt

- 2.8. The nearest GCN record was 1.9 km southwest of the site – all GCN records were associated with Dinton Pastures Country Park LWS. No European Protected Species (EPS) licences were returned for GCN within 2 km of the site. The data search found five waterbodies within 250 metres of the site – generally considered to be within the typical range of GCN from a waterbody⁷. These are labelled D1 and D2 (connected, therefore considered one waterbody), D3, WB1, WB2, and WB5 on the Waterbodies Plan **16452/P04**.
- 2.9. The modified grassland is an open exposed habitat, heavily poached by horses and considered to be suboptimal habitat for GCN. The ground flora of the hedgerows and lines of trees are considered suitable terrestrial habitat, and the ditches on site are considered suitable aquatic and terrestrial habitat (though not suitable for breeding as they are usually dry).
- 2.10. The eDNA survey tested ponds WB5 and WB6 (WB6 being c. 320 metres from site) were both were found to be positive for GCN presence. Other waterbodies shown on the plan (**16452/P04**) could not be accessed. Ditches D1, D2, and D3 were all dry and therefore considered unsuitable for breeding GCN. Therefore for the purposes of this report, a reasonable worst-case-scenario where waterbodies WB1, WB2, and WB5 are all GCN breeding ponds within 250 metres of the site has been assumed and assessed in **Section 3**.

Other Amphibians

- 2.11. Other more mobile amphibian species such as common toad may be present. Common toads are a priority species under The Natural Environment and Rural Communities (NERC) Act 2006⁸. It is considered any population utilising terrestrial habitats on site, such as the ruderal/ephemeral vegetation and hedgerow ground flora, will also be using further habitats beyond the site boundary and not reliant on the site alone.

⁷ Cresswell, W. & Whitworth, R., 2004. An assessment of the efficiency of capture techniques and the value off different habitats for the great crested newt *Triturus cristatus*: English Nature Research Report 576 , Peterborough: English Nature.

⁸ Section 40 of the NERC Act puts a duty on local authorities to have regard for the conservation of species and habitats listed at Section 41, including when considering planning applications.



Badger

- 2.12. The data search returned 13 records of badger within 2 km of the site in the last 10 years. These were coarse resolution records, given badgers are often persecuted.
- 2.13. The habitats on site, such as the modified grassland, hedgerows, and lines of trees offer habitats suitable for foraging, commuting, and sett creation. The badger survey found possible snuffle holes (unconfirmed, as there was significant rabbit activity on site), a single badger hair, and a possible off-site badger sett (which could not be closely assessed due to dense bramble). The locations of these are shown on the Badger Survey Results Plan **16452/P05**, along with a 30 metre buffer from the potential badger sett. This should be redacted when publishing on any public portal, as badgers can be prosecuted. In addition, an incidental sighting of a dead badger along Lodge Road, identified on the way to a reptile survey, is shown.
- 2.14. Given the habitats within 30 metres of the off-site potential badger sett are not proposed for development other than grassland enhancement, and no signs of setts were otherwise identified, impacts are not anticipated. Nevertheless, as badger setts are protected under the Protection of Badgers Act 1992, measures to prevent a breach in legislation are outlined in **Section 3** below, along with proposed habitat enhancements for badgers.

Bats

- 2.15. The data search returned 379 records for six bat species within 2 km of the site in the last 10 years. These species were brown long-eared bat *Plecotus auritus*, common pipistrelle *Pipistrellus pipistrellus*, Daubenton's bat *Myotis daubentonii*, Leisler's bat *Nyctalus leisleri*, Nathusius's pipistrelle *Pipistrellus nathusii*, noctule *Myctalus noctula*, serotine *Eptesicus serotinus*, soprano pipistrelle *Pipistrellus pygmaeus*, and barbastelle *Barbastella barbastellus*. The nearest of these is a record of a common pipistrelle emerging from a roost c. 60 metres from the site, along Tape Lane to the east. In addition, eight EPS licences for bat roosts were returned in a 2 km radius, the nearest of these was for the destruction of a resting place for soprano pipistrelle c. 70 metres west of the site in 2020 (reference: 2019-43858-EPS-MIT).

Bat Activity

- 2.16. The main body of the site is modified grassland, which is suitable but suboptimal habitat for foraging for bats. The linear features, such as the hedgerows, lines of trees, and ditches offer suitable commuting routes and foraging habitat for bats. The site was therefore assessed as having **low suitability** for foraging and commuting bats, and Night Time Bat Walkover (NTBW) and static detector surveys are being undertaken at the time of writing, in line with the latest best practice guidance⁹.
- 2.17. Owing to the timescales of the planning application, the 2024 surveys are incomplete, with only the first of the three scheduled NTBW surveys completed. Therefore for the purposes of this assessment, previous survey data from Ecology Solutions Ltd has also been reviewed

⁹ Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.

and drawn upon¹⁰. Static detector locations, the NTBW route and bat passes recorded are shown on the Bat Activity Survey Plan **16452/P06a**. Detailed results of the static detector survey are provided in **Appendix 3**. Results of further surveys will be provided in an addendum on completion.

- 2.18. Static detector surveys from both Ecology Solutions Ltd in 2022 and Tyler Grange Ltd in 2024 found that the site is in use by an assemblage of common bat species such as common pipistrelle, soprano pipistrelle, and noctule, with occasional use by serotine, brown long-eared bat, Nathusius's pipistrelle, *Myotis* species, and potentially other *Nyctalus* species. Two barbastelle calls were also recorded, in May 2024 by Tyler Grange, though these were faint and therefore presumably not close to the detector location. The transect/NTBW surveys, again by both Ecology Solutions Ltd in 2022 and Tyler Grange Ltd in 2024, showed that the hedgerows and treelines were in use by foraging and commuting bats, but the core grassland area had little to no activity.
- 2.19. Further information is detailed in the Bat Activity Report **16452/R02**¹¹.

Ground Level Tree Assessment

- 2.20. A Ground Level Tree Assessment (GLTA) was conducted alongside the UKHabs survey. This assessment was carried out on the trees on and directly adjacent to site, which may be impacted by the development. See **Appendix 3** for methodology, and the Ground Level Tree Assessment Plan **16452/P07** for locations.
- 2.21. A total of 19 trees were assessed as having potential to support roosting bats. As per latest guidance, all trees were assessed as Further Assessment Required (FAR), should any be lost or impacted by development when reserved matter applications come forward.
- 2.22. Based on the survey data showing the bat activity of the site, as well as the potential roosts, the assemblage of bats using the site is considered to be of **local ecological importance**.

Birds

- 2.23. The data search returned a number of records of protected and notable birds species within 2 km of the site, many associated with wetlands and recorded at Dinton Pastures Country Park LNR. Some species of relevance to the site include dunnoek *Prunella modularis*, black-headed gull *Chroicocephalus ridibundus*, starling *Sturnus vulgaris*, house sparrow *Passer domesticus*, and swift *Apus apus*.
- 2.24. Habitats on site, such as the lines of trees and hedgerows, have the potential to support common and widespread nesting and foraging birds. The modified grassland is exposed and is heavily poached by horses and donkeys, and is therefore considered unsuitable for nesting, including for ground-nesting species such as skylark *Alauda arvensis* due to exposure and

¹⁰ Updated Ecological Assessment, Land off Lodge Road, Hurst, Ecology Solutions Ltd (part of the ES Group) November 2022, Available at: https://publicaccess.wokingham.gov.uk/PublicAccess_Live/Document/ViewDocument?id=E36DE537985A11EDB73FF83441C30F86 [Accessed 09/07/2024]

¹¹ Tyler Grange Group Ltd (2024) Bat Activity Report 16452/R03, 10/10/2024



disturbance. No skylark or other ground nesting birds were recorded on any of the surveys carried out up until the time of writing.

- 2.25. The assemblage of birds using the site is therefore considered to be of negligible ecological importance, nevertheless measures to prevent a breach in legislation relating to nesting birds are set out in **Section 3** of this report.

Hazel Dormouse

- 2.26. No records of hazel dormouse *Muscardinus avellanarius* were returned by the data search within 2 km of the site, nor were any EPS licences. Whilst the hedgerows and lines of trees on site have some suitability for hazel dormouse, they are not connected to other arboreal habitats in the wider landscape and are not large enough to support hazel dormouse alone.
- 2.27. Hazel dormouse is therefore considered **likely absent from site and is not considered further within this report**.

Reptiles

- 2.28. The data search returned six records for slow-worm *Anguis fragilis* and 18 records of grass snake *Natrix helvetica* within 2 km of the site in the last 10 years. The nearest of these was a record of slow-worm 1.4 km west of the site. Habitats around the periphery of the site, such as the hedgerows, ditches, and taller forbs at the grassland edge offer some limited habitat on site for shelter and foraging common reptiles.
- 2.29. Reptile surveys were carried out from May to July 2024, as per best practice guidance¹² and in suitable weather conditions (see **Appendix 3** for full methodology). The only reptile recorded on site was a juvenile grass snake along hedgerow H1 (see the Reptile Survey Results Plan **16452/P08** for location).
- 2.30. Whilst a juvenile reptile cannot be included as part of a peak count (and therefore the peak count of the site is zero), it does indicate that grass snake are present in the area, albeit in low numbers. The population of grass snake utilising the site is therefore considered to be of **local ecological importance**. Other reptile species are **considered likely absent**.

¹² Froglife (1999) Froglife Advice Sheet 10 Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation, Froglife, Peterborough.



Section 3: Ecological Impacts, Mitigation, and Enhancement

Proposed Development

- 3.1. The site is being brought forward for an outline planning application for up to 99 new homes, green infrastructure, open space, pedestrian and cycle links, recreational facilities and other associated infrastructure including offsite highways works and access points on Lodge Road and Tape Lane with required improvements (all matters reserved except access). The proposed development Parameter Plan is included at **Appendix 1** to the rear of this report. The potential impacts at this site as a result of the proposed development are set out below, with reference to relevant legislation and planning policy, which is summarised in **Appendix 2**.
- 3.2. The Parameters Plan (reference: 1422 002C) and Illustrative Masterplan (reference: 1422 003-01B), shown in **Appendices 1** and **4** respectively, have been used to inform this assessment, and should be viewed in conjunction with this report.

Designated Sites

Statutory Sites

- 3.3. The data search returned one Natura 2000 site within 10 km and three statutory designated sites within 2 km of the site.
- 3.4. Thames Basin Heaths SPA is 9.6 km south of the site. The site lies outside of any mitigation zone requiring strategic mitigation (e.g. for recreation) as set out in policy¹³. In addition, given the large distance between the site and Thames Basin Heaths SPA, as well as a lack of functionally liked habitat or other impact pathways, no impacts to the designating features of the Thames Basin Heaths SPA are anticipated as a result of the development.
- 3.5. Lodge Wood & Sandford Mill SSSI lies 0.6 km west of the site – Natural England records no active pressures for this site¹⁴. In addition, given the distance and the lack of habitat connectivity between the site and Lodge Wood & Sandford Mill SSSI, no impacts are anticipated via noise, dust, pollution, etc. as long as construction follows standard best practice¹⁵. Recreational impacts are not anticipated, given the existing LNRs in the vicinity offering greenspaces for recreation, as well as the Local Landscape Area for Play (LLAP) proposed within the site (see **Appendix 1**).

¹³ Wokingham Borough Council (2024) Thames Basin Heath Special Protection Area, Available at: <https://www.wokingham.gov.uk/planning-policy/advice-developers/thames-basin-heath-special-protection-area> [Accessed 09/07/2024]

¹⁴ Natural England Lodge Wood & Sandford Mill SSSI, Available at: <https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1003870> [Accessed 09/07/2024]

¹⁵ CIRIA (2023) Environmental good practice on site guide (fifth edition) Available at: <https://www.ciria.org/ItemDetail?iProductCode=C811d&Category=DOWNLOAD> [Accessed 09/07/2024]



- 3.6. The two LNRs, Lavell's Lake and Alder Moors, are not designated both wildlife and local amenity. As both sites are already managed for recreation, impacts via recreation are not anticipated as a result of the development. Lavell's Lake notably has bird hides which prevent visitors from disturbing overwintering birds using the lake. Impacts via other pathways are also not anticipated, given the distance and the lack of habitat connectivity between the site and these LNRs.

Non-statutory Sites

- 3.7. A total of 18 non-statutory sites (or potential non-statutory sites) were returned within 2 km of the site.
- 3.8. The nearest is the proposed LWS: Land adjacent to Vine Cottage, Hurst; 0.1 km southeast of the site. In the absence of mitigation, impacts during construction activities could potentially occur via dust deposition, air pollution, and run-off. These potential impacts can be controlled through best practice pollution prevention measures, which can be incorporated in a Construction and Ecological Management Plan (CEMP). As this LWS is privately owned, no impacts during operation are anticipated.
- 3.9. The other five non-statutory sites were 0.4 – 2.0 km from the site. Given the distances, and lack of connecting habitats, adverse impacts to these non-statutory sites are not anticipated.

Habitats and Flora

- 3.10. Most of the habitats onsite to be lost are of negligible ecological importance, namely the modified grassland, and as such no specific mitigation is required.
- 3.11. Approximately 85 m of hedgerow H1, which is of local ecological importance, is anticipated to be lost to facilitate an access road and improve visibility at the proposed junction at Lodge Road. Approximately 20 m of hedgerow H2 will be lost to facilitate access from Tape Lane – no trees are to be lost. The loss of parts of hedgerows H1 and H2 will be more than compensated for by enhancing the retained hedgerows via buffers and suitable management practices (see **16452/BNG/2** for details), as well as hedgerow replanting at hedgerow H1.
- 3.12. The hedgerows, ditches, and lines of trees to be retained and should be protected during the construction phase. Best practice pollution prevention measures can be incorporated into a CEMP, and are expected to be secured via a suitably worded planning condition. For protection of trees, a full Arboricultural Method Statement (AMS) with associated Tree Protection Plan is expected to be conditioned, as set out in the Preliminary Arboricultural Impact Assessment (TG report **16452/R01a**).
- 3.13. Significant native planting and habitat enhancements are proposed, fully detailed in Section 4 and in the Statutory metric (**16452/BNG/2**) and shown on the Post-development Habitats Plan **16452/P09**. Enhancements to the ditch, hedgerows, lines of trees, as well as planting of neutral grassland, orchards, trees, and creation of a pond and swales are expected to improve the site overall for biodiversity. Recreational impacts to these created habitats (as well as retained and enhanced habitats) during the operational phase can be controlled by appropriately balancing the design of greenspace for both biodiversity and recreation, e.g.



through use of mown and gravel paths to prevent trampling across created grassland. Details on the creation, enhancement, and management of habitats post-development will be incorporated in a Habitat Management and Monitoring Plan (HMMP) (see **Section 4**).

Protected and Notable Species

Badger

- 3.14. Some signs of badgers activity were found on site, a dead badger was found along Lodge Road, and a possible sett was found across Lodge Road to the west (see Badger Survey Results Plan **16452/P05** for locations).
- 3.15. Whilst the badger sett is located within 30 metres of the site, no construction other than reseeded grassland is proposed in this area, and the sett is notable on the other side of Lodge Road from the development. See **Figure 3.1** below for an overlay of the 30 metre buffer on the Illustrative Masterplan.



Figure 3.1: A 30 metre buffer overlay of the potential badger sett on the Illustrative Masterplan (see Appendix 4). This should be redacted when publishing to the public.

- 3.16. Therefore, no impacts to badgers or their setts are anticipated as a result of the development. Nevertheless, due to their transient nature, badgers are able to dig a sett over the course of a single evening. It is therefore recommended that an update walkover for this species is completed prior to development (up to three months) to provide an up-to-date assessment of the presence of badger setts. In addition, general protection measures for badger such as covering excavations at night and secure storage of chemicals should be implemented as part of a CEMP.
- 3.17. These measures, if implemented, are expected to prevent risk of a breach in legislation relating to badgers and their setts.
- 3.18. Improvements to the habitats on site, including the enhancement of existing hedgerows and the creation of neutral grassland as well as tree and orchard planting are all expected to improve the site overall for badgers, and create foraging opportunities.



Bats

Bat Roosts

- 3.19. No trees with bat roost potential (indeed no trees at all) are to be lost as part of the development. As set out in the Preliminary Arboricultural Impact Assessment **16452/R01a**, development has avoided incursion into RPAs everywhere possible. Therefore, with suitable control measures incorporated into a CEMP (such as no lighting at night outside the bat hibernation season, as well as a control of noise and vibration within RPAs) are expected to prevent any disturbance to bats or their roosts, if present, during the construction phase.
- 3.20. The closest incursion to a tree with bat roost potential is the proposed footpath within the RPA of T80 – again with suitable control measures no disturbance to bats which may be using T80 as a roost are anticipated, particularly as a no-dig approach is recommended in this case to prevent impacts to tree T80. In addition, impacts from light during the operational phase are expected to be controlled via bat-sensitive lighting strategy (designed as per best practice¹⁶), with particular care taken to avoid lighting on retained trees with bat roost potential.
- 3.21. To enhance the site for roosting bats, bat boxes are recommended to be incorporated within scheme at Reserved Matters stage, by either using integrated bat boxes or externally erected bat boxes (expected to be secured via a suitably worded planning condition).

Bat Activity

- 3.22. Key habitats which offer suitability to the bat assemblage, such as the lines of trees, hedgerows, and the ditch are largely being retained and enhanced as part of proposals. In addition, measures to avoid impacts via light pollution should seek to avoid light spill to these habitats. Appropriate avoidance and mitigation measures are expected to be incorporated into the CEMP, and a bat-sensitive lighting strategy (designed as per best practice, as above). These are expected to be secured via a suitably worded planning condition, to ensure habitats suitable for roosting, foraging, and commuting bats are not impacted by light.
- 3.23. Through the retention of the lines of trees, ditches, all trees, and the majority of the hedgerows as well as new landscape planting and creation of more diverse grassland and new habitats not currently present on site such as ponds and orchards; foraging and commuting bats may continue to use the site post-development.

Birds

- 3.24. All birds, their nests and eggs, are protected by law and as such it is an offence to intentionally kill, injure, or take any wild bird; intentionally take, damage, or destroy the nest of any wild bird while it is in use or being built; and intentionally take or destroy the egg of any wild bird.
- 3.25. To avoid triggering the legislation protecting nesting birds, clearance of all suitable habitat (hedgerows) should be timed outside the nesting bird season (generally taken as March to September inclusive, though this is not defined in law and birds may nest outside of this time

¹⁶ Institute of Lighting Professionals, Bat Conservation Trust, 2023, Bats and Artificial Lighting in the UK Guidance Note GN 08 / 23, Warwickshire



– note potential conflict with reptile periods below). If any clearance works to nesting habitats are required during the nesting season, then pre-removal checks for nesting birds must be carried out by a suitably experienced Ecological Clerk of Works (ECoW), no more than 48 hours prior to the works commencing. If any nesting birds are found to be present, an appropriate buffer zone will be implemented, within which works are excluded for the duration of the breeding attempt. Any active nests will need to be left in situ until a suitably experienced ecologist confirms that the chicks have fledged and the nest is no longer active.

- 3.26. Habitat creation such as hedgerow, orchard and tree planting is expected to increase nesting opportunities on site. Additionally, bird boxes are recommended to be incorporated within the scheme at Reserved Matters stage, targeting species of conservation concern known to be present (expected to be secured via a suitably worded planning condition).

Great Crested Newt

- 3.27. The sections of hedgerows to be removed as part of the development are the only impacts to suitable terrestrial habitat for GCN. Based on the Parameters Plan (**Appendix 1**), approximately 0.032 ha of suitable terrestrial habitat will be lost, at access points along hedgerows H1 and H2. This is in the radius 100 to 250 metres from site. The Rapid Risk Assessment (RRA) Tool was used to estimate the likelihood of an offence should this suitable habitat in the 100-250 metre zone be lost.

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.01 - 0.1 ha lost or damaged	0.01
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
	Maximum	0.01
Rapid risk assessment result:		GREEN: OFFENCE HIGHLY UNLIKELY

Figure 2.1: The Rapid Risk Assessment Tool Output, Assuming All Suitable Terrestrial Habitat for GCN is Lost.

- 3.28. It's noted that whilst the RRA Tool asks for 'land' rather than suitable habitat, in light of the results indicating this, when considering only suitable habitats, on balance, a precautionary approach is proportionate. It is still acknowledged that GCN could still move through the modified grassland despite it not being of optimal habitat for them, and precautions should take this into account.
- 3.29. In summary, given the distance between the site and the data search records, and small amount of suitable habitat within 250 m of possible breeding ponds, an offence is highly unlikely as a result of the development. Nevertheless precautions should be taken when this vegetation is to be cleared. Precautionary working methods should include:
- clearing vegetation outside of the hibernation period (which is September to mid-March);
 - a hand-search and gradual dismantling of any habitat features which may contain GCN, to be completed by a licenced ecologist; and



- tool-box talks to be given to site staff by a suitably experienced ecologist prior to the commencement of works to ensure site staff are aware of potential GCN presence.
- 3.30. If GCN are found by site staff during works, all works should cease immediately, and an ecologist should be contacted. An EPS licence may be required.
- 3.31. Enhancements such as creation of refugia for GCN can be incorporated into a biodiversity enhancement plan or similar at Reserved Matters stage, and secured via a suitably worded planning condition, ideally located within the enhanced habitats such as neutral grassland and/or hedgerows. Creation of aquatic features such as the pond and swales are expected to enhance the site overall for GCN.

Reptiles

- 3.32. The reptile surveys found a single juvenile grass snake using the site, close to hedgerow H1 (see the Reptile Survey Location Plan **16452/P08**). As a juvenile, it can't be counted towards a peak count for the site (which remains zero for all reptile species), however it clearly indicates the presence of adult grass snake at least in the vicinity of the site.
- 3.33. The hedgerows and ditches offer some suitable habitat for reptiles, however the areas to be impacted by the proposals are small, and mitigation is expected to be sufficient to prevent a breach in legislation. This mitigation can be set out in a Precautionary Working Methods Statement (PWMS), which may be incorporated in the CEMP, and should include:
- A toolbox talk by a suitably qualified ecologist;
 - Vegetation removal to be undertaken when overnight temperatures are above 5°C and daytime temperatures are at least 9°C;
 - A check by an Ecological Clerk of Works (ECoW) of vegetation immediately prior to removal;
 - A two-stage cut, once to 15 cm, and then cut to ground level or the top layer of soil; and
 - If any reptiles are found, the ECoW will move the reptile to suitable retained habitat.
- 3.34. The native species planting proposed is expected to more than compensate for the loss of the above habitats, and improve the site overall for reptiles. Additional enhancements, such as the creation of reptile refugia within proposed areas of green infrastructure, may be secured via a suitably worded planning condition.



Section 4: Biodiversity Net Gain

- 4.1. The Town and Country Planning Act has, from February 2024, made a 10% net gain in biodiversity mandatory; NPPF requires developments to demonstrate a net gain in biodiversity, and the Wokingham Revised Growth Strategy Consultation, in policy SS1, sets out a requirement to:

"Secure enhancements to the natural environment (including achieving a minimum 10% net gain in biodiversity) and public realm."

- 4.2. A development achieves biodiversity net gain when the total biodiversity units present post-development is higher than that of the biodiversity units present on site prior to development. Defra's Statutory metric has been used to calculate the biodiversity value of the site before and after development in terms of "biodiversity units" to calculate an overall biodiversity net gain or loss.

Existing Habitats

- 4.3. The following habitats are present within the red line boundary of the site and are shown on Habitat Features and Ground Level Tree Assessment Plan **16452/P03b**. The rationale for condition assessments is detailed within the metric **16452/BNG/2**.

Table 4.1: Baseline Habitats and Areas Retained and Enhanced

Broad Habitat	Habitat Type	Area (hectares)	Distinctive-ness	Condition	Strategic significance	Area retained	Area enhanced	Area habitat lost
Grassland	Modified grassland	10.54	Low	Moderate	Location ecologically desirable but not in local strategy	0	1.25	9.29
Individual trees	Rural tree (Irreplaceable)	0.55	Medium	Moderate	Location ecologically desirable but not in local strategy	0	0.46	0.09
Individual trees	Rural tree	0.07	Medium	Good	Location ecologically desirable but not in local strategy	0.07	0	0

Table 4.2: Baseline Hedgerows and Lengths Retained and Enhanced

Hedge number	Hedgerow type	Length (km)	Distinctiveness	Condition	Strategic significance	Length retained	Length enhanced	Length lost
TL1, TL4, TL5	Ecologically valuable line of trees	0.47	Medium	Moderate	Location ecologically desirable but not in local strategy	0	0.40	0
H2	Species-rich native hedgerow with trees	0.35	High	Moderate	Location ecologically desirable but not in local strategy	0	0.33	0.02
H1, H3	Native hedgerow	0.23	Low	Moderate	Location ecologically desirable but not in local strategy	0.14	0	0.09



Table 4.3: Baseline Watercourse Length Retained and Enhanced

Watercourse type	Length (km)	Distinctiveness	Condition	Strategic significance	Watercourse encroachment	Riparian encroachment	Length retained	Length enhanced
Other rivers and streams	0.30	High	Fairly Good	Location ecologically desirable but not in local strategy	No Encroachment	Major/Major	0	0.30
Ditches	0.21	Medium	Poor	Location ecologically desirable but not in local strategy	No Encroachment	Major/Major	0	0.21

Proposed Habitats

- 4.4. The proposals, as shown within Parameters Plan (**Appendix 1**) as well as assumptions drawn from the Illustrative Masterplan (**Appendix 4**) have been used to calculate the proposed habitat areas. The rationale for target condition assessments is detailed within the metric **16452/BNG2**, and habitats are shown on the Post-development Habitats Plan **16452/P09**.

Table 4.4: Created and Enhanced Habitats

Broad Habitat	Proposed habitat	Area (hectares)	Created/Enhanced	Distinctiveness	Strategic significance	Target Condition
Urban	Allotments	0.12	Created	Low	Location ecologically desirable but not in local strategy	Good
Urban	Bioswale	0.11	Created	Low	Formally identified in local strategy	Good
Urban	Developed land; sealed surface	3.67	Created	V.Low	Area/compensation not in local strategy/ no local strategy	N/A - Other
Grassland	Modified grassland	0.89	Created	Low	Location ecologically desirable but not in local strategy	Good
Grassland	Other neutral grassland	2.75	Created	Medium	Location ecologically desirable but not in local strategy	Good



Lakes	Ponds (non-priority habitat)	0.13	Created	Medium	Location ecologically desirable but not in local strategy	Moderate
Urban	Vegetated garden	1.16	Created	Low	Area/compensation not in local strategy/ no local strategy	Condition Assessment N/A
Grassland	Traditional orchards	0.46	Created	High	Location ecologically desirable but not in local strategy	Moderate
Individual trees	Urban tree	0.62	Created	Medium	Location ecologically desirable but not in local strategy	Moderate
Grassland	Other neutral grassland	1.25	Enhanced (from Modified grassland)	Medium	Location ecologically desirable but not in local strategy	Good
Individual trees	Rural tree (Irreplaceable)	0.46	Enhanced	Medium	Location ecologically desirable but not in local strategy	Good



Table 4.5: Created and Enhanced Hedgerows

Habitat type	Length (km)	Created/ enhanced	Distinctiveness	Strategic significance	Target condition
Ecologically valuable line of trees	0.4	Enhanced	Medium	Location ecologically desirable but not in local strategy	Good
Species-rich native hedgerow with trees	0.35	Enhanced	High	Location ecologically desirable but not in local strategy	Good
Ecologically valuable line of trees - associated with bank or ditch	0.11	Enhanced	Medium	Location ecologically desirable but not in local strategy	Good
Native hedgerow	0.07	Created	Low	Location ecologically desirable but not in local strategy	Moderate

Table 4.6: Enhanced Watercourse

Watercourse type	Length (km)	Created/ enhanced	Strategic significance	Watercourse encroachment	Riparian encroachment	Target condition
Other rivers and streams	0.30	Enhanced	Location ecologically desirable but not in local strategy	No Encroachment	Major/Minor	Fairly Good
Ditches	0.21	Medium	Location ecologically desirable but not in local strategy	No Encroachment	Major/Major	Moderate



Results Summary

- 4.5. As described within the Statutory metric **16452/BNG/2** and summarised below in **Figure 4.1**, based on the habitats present on site that will be lost and those to be created, the development would result in a gain of 5.12 habitat units, 2.44 hedgerow units, and 1.05 watercourse units. This is a percentage gain of 10.82% in habitat units, 22.74% in hedgerow units, and 23.75% in watercourse units.

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	5.12
	<i>Hedgerow units</i>	2.44
	<i>Watercourse units</i>	1.05
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	10.82%
	<i>Hedgerow units</i>	22.74%
	<i>Watercourse units</i>	23.75%
Trading rules satisfied?	Yes ✓	

Figure 4.7: Biodiversity Net Gain Assessment Results Summary, taken from the Statutory Metric.

- 4.6. Note that the baseline nor the enhancements to the retained veteran trees are not included in the above, and if included the baseline would have an additional 4.84 units and the enhancements would provide result in 5.19 units, if the metric did not return an error.

Trees T85 and T86

- 4.7. Owing to legislation relating to degradation (see **Appendix 2**) trees T85 and T86 have been included retrospectively in the baseline of the metric. As detailed in **Appendix 3**, T86 was of 'medium' size, and T85 has been assumed to be 'very large' in the absence of other evidence. These have been assumed to be veteran trees for the purpose of BNG and best practice. However, veteran classification is not known given the trees were removed prior to Tyler Grange's involvement in the project, and no assessment for veteran classification has been possible as part of the ecology and arboricultural surveys.
- 4.8. As such, the metric returns loss of irreplaceable habitat. The development proposals cannot avoid this impact, as it has already occurred.

Management

- 4.9. The results of the Statutory metric are based on the habitats within the site being maintained at a certain condition, as prescribed by the condition assessment sheets published by Defra.
- 4.10. As the scheme is being put forward for outline permission, details on landscaping are not fixed and this BNG has been undertaken to demonstrate feasibility. Details of landscaping and management can be finalised, along with a final BNG assessment, at Reserved Matters stage. The habitat establishment and long-term management prescriptions will be provided



through the production of a HMMP. The HMMP would set out the prescriptions for the establishment and maintenance of the habitats on site for 30 years and its production controlled via a planning condition.



Section 5: Conclusions

- 5.1. The following site-wide mitigation is proposed:
- A CEMP to include standard best practice pollution prevention, and precautionary measures to protect retained habitats, bats, reptiles, nesting birds, GCN, and badger;
 - A bat sensitive lighting strategy to protect retained (particularly those which have bat roosting potential), as well as the habitats on site suitable for bat commuting/foraging such as hedgerows, trees, and the ditch;
 - Enhancements such as bat/bird boxes and reptile refugia; and
 - An HMMP to ensure the long-term management of created habitats.
- 5.2. Four statutory and 18 non-statutory designated sites assessed. Provided the above mitigation is implemented, no adverse impacts to protected sites are anticipated, as set out in Section 3.
- 5.3. The development will primarily affect habitats of negligible ecological importance. Loss of some hedgerow, of local ecological importance, will be compensated for by replacement tree and shrub planting. The ditch, hedgerows, and lines of trees being retained will be protected via a CEMP and/or an AMS. The proposed native species tree and grassland planting is expected to enhance the site overall.
- 5.4. The majority of the hedgerows are being retained, along with other habitats on site suitable for foraging/commuting bats, reptiles, badger, GCN, and nesting birds. All trees with bat roosting potential are also being retained. No impacts to these species groups is anticipated, provided the above mitigation is implemented as per **Section 3**.
- 5.5. The BNG assessment found that the proposals are anticipated to result in a net gain of 5.12 habitat units, 2.44 hedgerow units, and 1.05 watercourse units. This is a percentage gain of 10.82% in habitat units, 22.74% in hedgerow units, and 23.75% in watercourse units. The gain in habitats and hedgerows would comply with the Town and Country Planning Act, as well as the National Planning Policy Framework (NPPF). A HMMP is expected to be conditioned to secure the management and monitoring of habitats for 30 years post-development.
- 5.6. In conclusion, in anticipation of the implementation of any necessary mitigation, which could be secured via planning conditions, the proposed development will be compliant with relevant planning policies, including policy CP7 of the Wokingham Borough Local Development Framework: Adopted Core Strategy Development Plan, policies CC03 and TB23 of the Wokingham Borough Development Plan: Adopted Managing Development Delivery Local Plan, and policy SS1 Local Plan Update: Revised Growth Strategy Consultation, as well as legislation with regard to ecology.



Appendix 1: Parameters Plan





Date	Scale	Drawn by	Check by
27/06/2024	1:2,000 at A3	JB	SR
Project No	Drawing No	Revision	
1422	002	C	

Mosaic

Appendix 2: Legislation and Planning Policy

Legislation

- A2.1. Specific habitats and species receive legal protection in the UK under various pieces of legislation, including:
- The Environment Act 2021;
 - The Wildlife and Countryside Act (WCA) 1981 (as amended);
 - The Conservation of Habitats and Species Regulations 2017 (as amended);
 - The Countryside and Rights of Way (CROW) Act 2000;
 - The Natural Environment and Rural Communities Act (NERC) 2006;
 - The Hedgerows Regulations 1997; and
 - The Protection of Badgers Act 1992.
- A2.2. The European Council Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna, 1992, often referred to as the 'Habitats Directive', provides for the protection of key habitats and species considered of European importance. Annexes II and IV of the Directive list all species considered of community interest. The legal framework to protect the species covered by the Habitats Directive has been enacted under UK law through The Conservation of Habitats and Species Regulations 2017 (as amended).
- A2.3. In Britain, the WCA 1981 (as amended) is the primary legislation protecting habitats and species. SSSIs, representing the best examples of our natural heritage, are notified under the WCA 1981 (as amended) by reason of their flora, fauna, geology or other features. All breeding birds, their nests, eggs and young are protected under the Act, which makes it illegal to knowingly destroy or disturb the nest site during nesting season. Schedules 1, 5 and 8 afford protection to individual birds, other animals and plants.
- A2.4. The CROW Act 2000 strengthens the species enforcement provisions of the WCA 1981 (as amended) and makes it an offence to 'recklessly' disturb a protected animal whilst it is using a place of rest or shelter or breeding/nest site.

Environment Act 2021: Town and Country Planning Act

- A2.5. The Environment Act gained Royal Assent in November 2022. Whilst the premise of Biodiversity Net Gain (BNG) has been around prior to this, the Assent of the Act set the Framework for future legislation to be changed. This was in the form of the Town and Country Planning Act (TaCPA), specifically Schedule 7a of the TaCPA, which in February 2024 made Biodiversity Net Gain a condition of planning (not a planning condition). The target 'gain' is set at 10%.
- A2.6. Included in Schedule 7a is the following:



(a) a person carries on activities on land on or after 30 January 2020 otherwise than in accordance with—

(i) planning permission, or

(ii) any other permission of a kind specified by the Secretary of State by regulations, and

(b) as a result of the activities the biodiversity value of the onsite habitat referred to in paragraph 5(1) is lower on the relevant date than it would otherwise have been, the pre-development biodiversity value of the onsite habitat is to be taken to be its biodiversity value immediately before the carrying on of the activities.

Protected Species Legislation and Conservation Status

Badgers

- A2.7. The Protection of Badgers Act 1992 consolidates the previous Badger Acts of 1973 and 1991. The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status. As well as protecting the animal itself, the 1992 Act also makes the intentional or reckless destruction, damage or obstruction of a badger sett an offence.
- A2.8. A sett is defined as 'any structure or place which displays signs indicating current use by a badger'.
- A2.9. In addition, the intentional elimination of sufficient foraging area to support a known social group of badgers may, in certain circumstances, be construed as an offence by constituting 'cruel ill treatment' of a badger. Badgers are common and widespread in the UK and are not the subject of conservation action.

Bats

- A2.10. As European protected species, all UK bats receive legal protection in England under the Conservation of Habitats and Species Regulations (CoHSR) 2017 (as amended) and the Wildlife and Countryside Act (WCA) 1981 (as amended).
- A2.11. All British species of bat are listed on Schedule 2 of the CoHSR 2017 as European Protected Species (EPS). Regulation 41 (1) makes it an offence to:
- Deliberately capture or injure an EPS;
 - Deliberately disturb an EPS;
 - Deliberately take or destroy the eggs of an EPS; and/or
 - Damage or destroy a breeding site or resting place of an EPS.
- A2.12. All British bats are listed in Schedule 5 of the WCA. Section 9 of the WCA affords protection to Schedule 5 animals against:
- Intentional killing, injuring or taking;



- Possessing (including parts or derivatives);
- Intentional or reckless damage, destruction, or obstruction of any structure or place used for shelter, or protection; and/or
- Selling, offering or exposing for sale (alive or dead, including parts or derivatives).

A2.13. All British bats are also listed at Schedule 6 of the WCA, and as such under Section 11 (1) of the WCA cannot be killed or taken by certain methods, such as traps and nets, poisons, automatic weapons, electrical devices, smoke/gases etc.

A2.14. Several British bat species are listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006, which states that decision-makers such as Local Planning Authorities must have regard to Species of Principal Importance (SoPI) in all their activities, including when making decisions on planning applications.

A2.15. The following bat species are SoPIs: barbastelle *Barbastella barbastellus*, Bechstein's *Myotis bechsteinii*, brown long-eared, greater horseshoe *Rhinolophus ferrumequinum*, lesser horseshoe *Rhinolophus hipposideros*, noctule, and soprano pipistrelle. These are the species found in England which were identified as requiring action under the UK Biodiversity Action Plan (UKBAP) and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework.

Birds

A2.16. A1.15 In England and Wales, birds and their nests are protected under the Wildlife and Countryside Act (1981) (as amended).

A2.17. Under the EU Birds Directive, those sites that support Annex 1 species and sub-species are designated as SPAs. Member states are required to safeguard the habitats of those threatened and migratory birds.

Reptiles

A2.18. The four common reptile species found within the UK are common lizard *Zootoca vivipara*, slowworm *Anguis fragilis*, grass snake *Natrix natrix* and adder *Viper berus*. These species and all other native reptiles are protected against killing, injuring or trade under section 9 (parts 1 and 5) of the Wildlife and Countryside Act 1981 (as amended). Only part of sub-section 9(1) applies, which make it an offence to:

- Intentionally kill or injure; and
- Sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative).

A2.19. Common lizard, slow-worm, grass snake and adder are all listed as species of principal importance under section 41 of the Natural Environment and Rural Communities Act 2006 (NERC).



Great Crested Newt

A2.20. In England and Wales, great crested newts (GCN) and their habitats are predominantly protected under the Conservation of Habitats and Species Regulations (2010), with other complimentary legislation comprised of the Wildlife and Countryside Act (1981) (as amended); the Countryside and Rights of Way Act (CROW, 2000); and the Natural Environment and Rural Communities Act (NERC, 2006).

National Planning Policy

National Planning Policy Framework (NPPF), December 2023

A2.21. The National Planning Policy Framework (NPPF) was updated in December 2023 and sets out the Government's planning policies for England and how these should be applied.

A2.22. Paragraph 11 states that:

"Plans and decisions should apply a presumption in favour of sustainable development."

A2.23. Section 11 of the NPPF, paragraph 124, sub-section b states that planning policies and decisions should:

b) *"recognise that some undeveloped land can perform many functions, such as for wildlife, recreation, flood risk mitigation, cooling/shading, carbon storage or food production"*

A2.24. Section 15 of the NPPF (paragraphs 180 to 194) considers the conservation and enhancement of the natural environment.

A2.25. Paragraph 180 states that planning and decisions should contribute to and enhance the natural and local environment by:

- a) *"protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);"*
- b) *recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;*
- c) *maintaining the character of the undeveloped coast, while improving public access to it where appropriate; and*
- d) *minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures"*

A2.26. Paragraph 181 states that plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.



A2.27. Paragraph 185 states that in order to protect and enhance biodiversity and geodiversity, plans should:

- a) *"Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity¹⁷; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation¹⁸; and*
- b) *promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity."*

A2.28. When determining planning applications, Paragraph 186 states that local planning authorities should apply the following principles:

- a) *"if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- b) *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- c) *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons¹⁹ and a suitable compensation strategy exists; and*
- d) *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate."*

A2.29. As stated in paragraph 187 the following should be given the same protection as habitats sites²⁰:

- a) *"potential Special Protection Areas and possible Special Areas of Conservation;*
- b) *listed or proposed Ramsar sites²¹; and*

¹⁷ Circular 06/2005 provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.

¹⁸ Where areas that are part of the Nature Recovery Network are identified in plans, it may be appropriate to specify the types of development that may be suitable within them.

¹⁹ For example, infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat.

²⁰ The policies referred to are those in this Framework (rather than those in development plans) relating to: habitats sites (and those sites listed in paragraph 181) and/or designated as Sites of Special Scientific Interest; land designated as Green Belt, Local Green Space, an Area of Outstanding Natural Beauty, a National Park (or within the Broads Authority) or defined as Heritage Coast; irreplaceable habitats; designated heritage assets (and other heritage assets of archaeological interest referred to in footnote 68); and areas at risk of flooding or coastal change.

²¹ Potential Special Protection Areas, possible Special Areas of Conservation and proposed Ramsar sites are sites on which Government has initiated public consultation on the scientific case for designation as a Special Protection Area, candidate Special Area of Conservation or Ramsar site.



- c) *sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites."*

A2.30. Paragraph 188 states that the presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

Local Planning Policy

Wokingham Borough Local Development Framework: Adopted Core Strategy Development Plan Document 2010

A2.31. Policy CP7: Biodiversity states:

Sites designated as of importance for nature conservation at an international or national level will be conserved and enhanced and inappropriate development will be resisted. The degree of protection given will be appropriate to the status of the site in terms of its international or national importance.

Development:

- A. *Which may harm county designated sites (Local Wildlife Sites in Berkshire), whether directly or indirectly, or*
- B. *Which may harm habitats or, species of principle importance in England for nature conservation, veteran trees or features of the landscape that are of major importance for wild flora and fauna (including wildlife and river corridors), whether directly or indirectly, or*
- C. *That compromises the implementation of the national, regional, county and local biodiversity action plans will be only permitted if it has been clearly demonstrated that the need for the proposal outweighs the need to safeguard the nature conservation importance, that no alternative site that would result in less or no harm is available which will meet the need, and:*
- D. *Mitigation measures can be put in place to prevent damaging impacts; or*
- E. *Appropriate compensation measures to offset the scale and kind of losses are provided.*

A2.32. Policy CP8: Thames Basin Heaths Special Protection Area states:

The Development which alone or in combination is likely to have a significant effects on the Thames Basin Heaths Special Protection Area will be required to demonstrate that adequate measures to avoid and mitigate any potential adverse effects are delivered.

Wokingham Borough Development Plan: Adopted Managing Development Delivery Local Plan 2014



A2.33. Policy CC03: Green Infrastructure, Trees and Landscaping states:

Green Routes and Green Route Enhancement Areas are defined on the Policies Map.

Development proposals should demonstrate how they have considered and achieved the following criteria within scheme proposals:

- A. Provide new or protect and enhance the Borough's Green Infrastructure networks, including the need to mitigate potential impacts of new development*
- B. Promote accessibility, linkages and permeability between and within existing green corridors including public rights of way such as footpaths, cycleways and bridleways*
- C. Promote the integration of the scheme with any adjoining public open space or countryside*
- D. Protect and retain existing trees, hedges and other landscape features*
- E. Incorporate high quality, ideally, native planting and landscaping as an integral part of the scheme.*

Development proposals which would result in the loss, fragmentation or isolation of areas of green infrastructure will not be acceptable.

Development proposals within the River Valley areas shall improve or contribute toward:

- A. The establishment of a Loddon/ Blackwater riverside footpath and bridleway, as defined on the Policies Map, to accommodate dual use*
- B. The establishment of a riverside footpath and cycleway to accommodate dual use along the Emm Brook*
- C. Opportunities for improvements to green infrastructure to help minimise flood risk*

A2.34. Policy TB23: Biodiversity and Development states:

Sites of national or international importance are shown and sites of local importance are defined on the Policies Map.

Planning permission for development proposals will only be granted where they comply with policy CP7 – Biodiversity of the Core Strategy and also demonstrate how they:

- A. Provide opportunities, including through design, layout and landscaping to incorporate new biodiversity features or enhance existing*
- B. Provide appropriate buffer zones between development proposals and designated sites as well as habitats and species of principle importance for nature conservation*
- C. Ensure that all existing and new developments are ecologically permeable through the protection of existing and the provision of new continuous wildlife corridors, which shall be integrated and linked to the wider green infrastructure network*



Local Plan Update: Revised Growth Strategy Consultation Nov 2021 – Jan 2022

A2.35. Policy SS1: Spatial Strategy

New growth will be balanced by ensuring that Wokingham Borough's identified development needs can be met with adequate provision of infrastructure, in a manner that enables improvements to quality of life, reduces the need to travel, adapts to and mitigates against the impacts of climate change to achieve a 'net zero carbon' future, and maintains and strengthens the sense of place, including the role and separate identity of settlements.

The following actions will help to achieve this:

- a) Manage development so that it is consistent with the character, accessibility and provision of infrastructure and services within that settlement.*
- b) Ensure sufficient supporting infrastructure is delivered to facilitate the growth in new homes and jobs.*
- c) Deliver a minimum of 15,513 dwellings over the plan period 2018-2038, of which development proposals for 5 or more units (net) should provide up to 50% as affordable housing.*
- d) Protect existing employment locations, supporting their evolution and adaptation to changes in technology and market demands.*
- e) Support town centres and high streets to evolve and adapt as social and economic hubs.*
- f) Promote quality and innovation in the design of buildings and public spaces, ensuring they are attractive, accessible, welcoming and meet needs of all groups in the community.*
- g) Prioritise sustainable travel and embrace innovative technologies.*
- h) Protect and enhance the borough's heritage assets and townscape value.*
- i) Secure enhancements to the natural environment (including achieving a minimum 10% net gain in biodiversity) and public realm.*
- j) Promote healthy lifestyles and wellbeing.*
- k) Enable a 'net zero carbon' future, by ensuring that new development minimises carbon and other emissions, and champions initiatives and solutions to improve energy efficiency in existing buildings and new developments.*
- l) Support the efficient use of land and buildings.*
- m) Limit development on areas of best and most versatile agricultural land.*



Appendix 3: Methodology and Results

Data Search

- A3.1. A desk-based study was conducted whereby records of designated sites and records of protected and priority species were purchased and interrogated for the site and the surrounding landscape. The aim of the data search is to collate existing ecological records for the site and adjacent areas. Obtaining existing records is an important part of the assessment process as it provides information on issues that may not be apparent during a single survey, which by its nature provides only a 'snapshot' of the ecology of a given site.
- A3.2. The following resources were consulted/contacted:
- Multi-Agency Geographic Information for the countryside (MAGIC) website²²;
 - Thames Valley Environmental Records Centre²³; (Data ordered and received on 20th December 2024);
 - Wokingham Borough Council website²⁴;
 - Joint Nature Conservation Committee (JNCC) website²⁵;
 - Natural England (NE) designated sites website²⁶;
 - Ordnance Survey mapping; and
 - Google Maps, including aerial photography.
- A3.3. The following areas of search around the boundary of the site boundary were applied:
- 2 km for protected and priority species, national statutory designated and non-statutory sites; and
 - 10 km for European statutory sites.

UK Habitat Classification Survey (UKHabs)

- A3.4. A UKHabs survey was carried out on the 12th December 2023 by Mari Jones BSc MSc, a suitably experienced ecologist. This is outside of the optimal period for botanical surveys; therefore a verification visit was undertaken on 8th May 2024, also by Mari Jones, so habitats could be assessed in the optimal season. The methods used during the walkover survey broadly followed methods used in an 'extended' Phase I habitat survey²⁷ and entailed recording the main plant

²² <https://magic.defra.gov.uk/> [Accessed 01/07/2024]

²³ <https://www.tverc.org/cms/> [Accessed: 01/07/2024]

²⁴ <https://www.wokingham.gov.uk/> [Accessed 01/07/2024]

²⁵ <http://jncc.defra.gov.uk/ProtectedSites/> [Accessed 01/07/2024]

²⁶ <https://designatedsites.naturalengland.org.uk/> [Accessed 01/07/2024]

²⁷ Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey - a technique for environmental audit. JNCC, Peterborough.



species and classifying and mapping habitat types with reference to the Habitat Definitions provided by the UK Habitat Classification Working Group²⁸.

- A3.5. Additionally, the habitats identified were evaluated for their potential to support legally protected and notable fauna species. Where access allowed, adjacent habitats were also considered in order to assess the site within the wider landscape and to provide information with which to assess possible impacts within the context of the site boundary.

Ground Level Tree Assessment (GLTA)

- A3.6. A GLTA was undertaken on all trees within and directly adjacent to the site boundary. The assessment was undertaken on the 12th December 2023 by Mari Jones BSc MSc, alongside the UKHabs survey. All surveys were daytime inspections and the conditions for all surveys was considered optimal. The location of the trees at the site are shown on the Habitat Features and Ground Level Tree Assessment **Plan 16452/P03b**. All trees were inspected from the ground using binoculars and a high powered torch.
- A3.7. The potential of trees to support roosting bats was assessed using the criteria shown in **Table A3.1** below.

Table A3.1: Assessment of Tree Suitability Criteria - adapted from Collins, 2023.

Roost Suitability	Description of Roosting Habitat
NONE	Either no PRFs in the tree or highly unlikely to be any
FAR	Further assessment required to establish if PRFs are present in the tree
PRF	A tree with at least one PRF present

Day-time Bat Walkover (DBW)

- A3.8. A DBW was undertaken on all habitats within the site boundary, alongside the UKHabs and GLTA surveys on the 12th December 2023 by Mari Jones BSc MSc. The DBW assessed habitats on-site for the likelihood to be used by foraging and commuting bats as detailed in **Table A3.2** below. This combined with desk study records of local bats and bat roosts, and potential for roosting bats on-site is used to determine suitability of the site for bat activity.

Table A3.2: Flight Path and Foraging Habits Assessment Criteria - adapted from Collins, 2023.

Suitability	Description of Roosting Habitats
None	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines, or generate/shelter insect populations available to foraging bats).

²⁸ UKHab Ltd (2023). UK Habitat Classification Version 2.9 (at <https://www.ukhab.org>)



Suitability	Description of Roosting Habitats
Negligible	No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	Habitat that could be used by small numbers of bats as flight-paths such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for flight-paths such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

eDNA Survey for Great Crested Newt (GCN)

- A3.9. An eDNA sampling survey was completed by Ben Nelumbu, assisted by Sarah Whittaker, on 27th June 2024 on accessible waterbodies.
- A3.10. eDNA kits were ordered from SureScreen and delivered by courier. eDNA samples were taken by collecting water samples from each waterbody in accordance with best practice guidance and the SureScreen protocol. The samples were subsequently returned by post and were subject to laboratory testing by SureScreen Scientifics Ltd for the presence or likely absence of great crested newt DNA. Results reports were issued by SureScreen (summary shown in **Appendix 5**).

Badger Walkover Survey

- A3.11. A badger survey was undertaken at the site, and within 30m, where accessible, on the 1st June, by Ben Nelumbu, a suitably qualified ecologist. This survey comprised two main elements, the first of these was a thorough search for evidence of badger setts. If any setts were encountered each sett entrance was noted and plotted even if the entrance appeared disused.



- A3.12. The number of holes comprising each sett was recorded and setts classified as disused, partially used or active. Sett descriptions and categories of use are set out in **Tables A3.3** and **A3.4** below.
- A3.13. Sett classification is only possible in relation to the other setts within a clan's territory and if the entire territory range cannot be assessed, classification may not be possible.
- A3.14. The following information was recorded:
- The number and location of well used or very active entrances; these are clear from any debris or vegetation and are obviously in regular use and may, or may not, have been excavated recently;
 - The number and location of partially-active entrances; these are not in regular use and have debris such as leaves and twigs in the entrance or have plants growing in or around the edge of the entrance; and
 - The number of disused entrances; these have not been in use for some time, are partly or completely blocked and cannot be used without considerable clearance. If the entrance has been disused for some time all that may be visible is a depression in the ground where the hole used to be and the remains of the spoil heap.
- A3.15. Secondly, the survey area was walked, and signs of badger activity recorded in order to determine the classification of each sett present within proximity of the site. Typical badger field signs include:
- Tracks and mammal pathways;
 - Push-throughs (gaps where badgers regularly push their way through fencing or hedgerows);
 - Latrines and dung pits;
 - Badger hairs;
 - Badger prints;
 - Foraging activity (e.g. snuffle holes); and
 - Additional sett entrances.
- A3.16. For any setts recorded, these were examined and assigned to one of four categories of importance to the badger clan, as defined by published guidance ^{29 30 31 32 33 34}.

²⁹ Harris S., Cresswell, P., Jefferies, D. (1989) Surveying Badgers. The Mammal Society, London.

³⁰ Wilson, G., Harris, S., McLaren, G. (1997) Changes in the British badger population 1988 to 1997. People's Trust for Endangered Species, London.

³¹ Cresswell, P., S. Harris, D. J. Jefferies (1990) The history, distribution, status and habitat requirements of the badger in Britain. Nature Conservancy Council, Peterborough, England.

³² Natural England (2022) Badgers: surveys and mitigation for development projects, Natural England standing advice, Available at: <https://www.gov.uk/guidance/badgers-surveys-and-mitigation-for-development-projects> [Accessed: 01/07/2024]

³³ Andrews, R. (2013). The Classification of Badger (*Meles meles*) Setts in the UK: A Review and Guidance for Surveyors. Chartered Institute of Ecology and Environmental Management - In Practice 82: 27-31

³⁴ Scottish Badgers (2018). Surveying for Badgers: Good Practice Guidelines. Version 1. https://www.scottishbadgers.org.uk/wp-content/uploads/2020/12/Surveying-for-Badgers-Good-Practice-Guidelines_V1-2020-2455979.pdf



Table A3.3: Classification of Badger Setts

Type of Badger Sett	Description
Main Sett	The continuously used, breeding and over-wintering sett for the social group of badgers (clan). Main setts usually more entrances than the rest of clans setts, with large spoil heaps and the setts generally look well used. There are well-used paths to and from the sett and between sett entrances.
Annex Sett	Annex setts are often close to a main sett, usually less than 150m away, and are often connected to the main sett by one or more obvious well-worn paths. Annex setts usually have several holes, but may not be in use all the time, even if the main sett is very active.
Subsidiary Sett	Subsidiary setts often only have a few holes. They are usually at least 50m from a main sett and do not have an obvious path connecting with another sett. They are not continuously active, with seasonal use.
Outlier Sett	Outlier setts usually have only one or two holes, often have little spoil outside the hole, with no obvious path connecting with another sett and are only used sporadically. When not in use by badgers, they are often taken over by foxes or rabbits. However, they can still be recognised as badger setts by the shape of the tunnel (not the actual entrance hole), which is usually at least 250mm in diameter, and is rounded or a flattened oval shape. Fox and rabbit tunnels are smaller and often taller than broad.

Table A3.4: Indicators of Badger Sett use

Classification of Use	Description
Active	Clear of debris and vegetation, obviously in regular use
Partially-active	Not in regular use, with leaves or twigs in entrance or moss and other plants growing around the entrance.
Disused	Partially or completely blocked entrances, unable to be used without a considerable amount of clearance.

A3.17. The survey area was searched systematically, with particular attention paid to areas where the vegetation and/or the topography offered good suitability for sett creation. Areas with dense ground cover (hedges, scrub, woodland, etc) were examined closely; if the vegetation prevented entry, then the perimeter was examined, in order to detect paths suggesting a hidden sett within the area.



Reptile Surveys

- A3.18. Reptile surveys were conducted in line with published guidance^{35 36}, and were completed within the active season for reptiles (March to October inclusive) by Sarah Whittaker.
- A3.19. The areas of suitable habitat comprising the edges of hedgerow, lines of trees, and ditches were all subject to specific reptile surveys. A total of 160 reptile refugia, comprising 0.5 x 0.5 m pieces of bitumen roofing felt, were deployed on 16th May within areas as showing on the Reptile Survey Results Plan **16452/P08**.
- A3.20. Refugia were left in situ for seven days to settle in, before seven subsequent survey checks were undertaken during suitable weather conditions (dry, warm, air temperature between 9°C to 18°C, with intermittent sun and light winds). The timings and weather data for these surveys is shown in **Table A3.5** below, along with survey results.

Table A3.5: Reptile survey results and metadata.

Date, time, and visit no.	Weather (Beaufort scale, % cloud cover, temp in °C)	Results
V1: 21/5/2024 10.00	Wind: 0 Cloud: 95 Temp: 12 Overcast, no rain	One juvenile grass snake.
V2: 28/5/2024 10.45	Wind: 1 Cloud: 100 Temp: 14 Overcast, rain earlier	No reptiles found.
V3: 4/6/2024 10.30	Wind: 2 Cloud: 80 Temp: 17 Overcast with sunny spells	No reptiles found.
V4: 11/6/2024 10.00	Wind: 1 Cloud: 50 Temp: 12 Sunny	No reptiles found.

³⁵ Froglife (1999) Reptile Survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice sheet 10. Froglife, Halesworth.

³⁶ Natural England (2022) Reptiles: advice for making planning decisions. Available at: <https://www.gov.uk/guidance/reptiles-advice-for-making-planning-decisions#:~:text=This%20is%20Natural%20England's%20'standing,standing%20advice%20for%20protected%20species.> [Accessed 01/07/2024]



V5: 18/6/2024 10.30	Wind: 0 Cloud: 50 Temp: 16 Sunny, occasionally overcast.	No reptiles found.
V6: 25/6/2024 5.45	Wind: 0 Cloud: 0 Temp: 12 Clear with morning mist	No reptiles found.
V7: 2/7/2024 12.30	Wind: 0 Cloud: 95 Temp: 17 Overcast	No reptiles found.

A3.21. During each visit, the refugia, were checked visually from a distance to determine whether reptiles are basking on their surface. The refugia were then carefully approached and lifted to check for reptiles sheltering beneath them. Searches of natural refugia were also undertaken, where these were present.

Bat Activity Survey

A3.22. The evaluation in this report is based on survey data collected in spring 2024 by Tyler Grange, as well as survey data from 2022 collected by Ecology Solutions Ltd³⁷. Methodology for surveys carried out by Tyler Grange are set out below.

Night Time Bat Walkover (NTBW)

A3.23. A NTBW was conducted on Thursday 27th June by Jason Short and Jasmine Mackintosh. This, though later than the ideal period of April-May, is intended as a spring visit. Further visits in summer and autumn of 2024 are anticipated, with update survey data provided in a follow-on report.

A3.24. The dusk activity transect surveys were undertaken between from 21:23 to 23:23 – full metadata details in **Table A3.6**. Surveyors used a combination of visual observation and echolocation detection techniques to identify any bat activity on the site. The surveys started at sunset and ended approximately two hours after sunset, in accordance with survey good-practice guidelines.

A3.25. One transect was walked, designed to cover all potential features of interest across the site including the mature treelines, ditch, and hedgerows (see Bat Activity Survey Plan **16452/P06a** for transect route and results). Grassland was included as the main impact of the development was

³⁷ Updated Ecological Assessment, Land off Lodge Road, Hurst, Ecology Solutions Ltd (part of the ES Group) November 2022
Available at:

https://publicaccess.wokingham.gov.uk/PublicAccess_Live/Document/ViewDocument?id=E36DE537985A11EDB73FF83441C30F86 [Accessed 09/07/2024]



to the grassland, therefore it was useful to include to inform this assessment. In accordance with survey guidelines, the same transect route will be followed on future surveys but with different start locations and alternate directions of travel for each survey.

A3.26. Anabat Express detectors in transect mode, Elekon batloggers and/or Batbox Duet detectors were used during the dusk activity surveys. Echolocation calls were recorded onto the Anabat express detectors and saved for post survey analysis. Recordings were analysed using software to examine any unidentified or queried calls.

Table A3.6: Activity survey metadata

Date	Surveyors	Timings	Conditions
27 th June 2024	Jason Short, Jasmine Mackintosh	Start/Sunset: 21:23 End: 23:23	Wind (Beaufort): 15 Temp (°C): 14 Precipitation: Dry Cloud (% cover): 10

A3.27. Further information on the summer and autumn surveys is detailed in the Bat Activity Report **16452/R02**.

Static Detector Surveys

A3.28. Further data was obtained from the deployment of automated detectors, which were placed in three locations in the site per season for a minimum of five consecutive nights (see the Bat Activity Survey Plan **16452/P06a** for locations). The number of automated detectors deployed on site was taken from survey guidelines in relation to the quality of habitat on site for bats. The static detectors were set to begin recording 30 minutes before sunset and continue to record for 30 minutes after sunrise.

A3.29. Full results are shown below in **Tables A3.7 – A3.9**, with the location reference numbers being shown on the Bat Activity Survey Plan **16452/P06a**.

Table A3.7: Spring 2024 survey results for L01

Species	1st May	2nd May	3rd May	4th May	5th May	6th May	7th May	8th May	Total
<i>Eptesicus serotinus</i>	31	17	2	7	7	0	2	0	66
<i>Myotis sp.</i>	0	1	1	1	3	3	2	1	12
<i>Nyctalus noctula</i>	22	9	0	9	5	1	7	0	53
<i>Nyctalus sp.</i>	11	0	2	23	19	1	11	0	67
<i>Pipistrellus pipistrellus</i>	668	2294	1465	88	118	143	161	119	5056
<i>Pipistrellus pygmaeus</i>	233	1079	1050	61	78	91	189	202	2983
<i>Pipistrellus sp.</i>	3	4	3	0	1	0	1	0	12



<i>Plecotus auritus</i>	0	1	0	1	1	0	0	0	3
Grand Total	968	3405	2523	190	232	239	373	322	8252

Table A3.8: Spring 2024 survey results for L02

Species	1st May	2nd May	3rd May	4th May	5th May	Total
<i>Barbastella barbastellus</i>	0	0	0	0	1	1
<i>Eptesicus serotinus</i>	10	16	3	13	0	42
<i>Myotis</i> sp.	0	0	1	2	1	4
<i>Nyctalus noctula</i>	17	20	6	11	9	63
<i>Nyctalus</i> sp.	23	14	9	42	0	88
<i>Pipistrellus pipistrellus</i>	41	71	27	37	9	185
<i>Pipistrellus pygmaeus</i>	198	243	154	116	40	751
<i>Pipistrellus</i> sp.	0	0	2	2	0	4
<i>Plecotus auritus</i>	0	0	0	1	0	1
Grand Total	289	364	202	224	60	1139

Table A3.9: Spring survey results for L03

Species	1st May	2nd May	3rd May	4th May	5th May	6th May	7th May	8th May	Total
<i>Barbastella barbastellus</i>	0	0	0	0	0	0	1	0	1
<i>Eptesicus serotinus</i>	8	2	0	0	1	0	1	0	12
<i>Myotis</i> sp.	0	3	0	2	2	0	0	1	8
<i>Nyctalus noctula</i>	6	11	2	2	3	3	2	0	29
<i>Nyctalus</i> sp.	16	5	0	6	2	0	4	0	33
<i>Pipistrellus pipistrellus</i>	276	810	77	17	19	54	7	8	1268
<i>Pipistrellus pygmaeus</i>	121	242	105	27	75	44	9	15	638
<i>Pipistrellus</i> sp.	0	1	1	0	0	0	0	0	2
<i>Plecotus auritus</i>	0	0	0	0	0	0	1	0	1
Grand Total	427	1074	185	54	102	101	25	24	1992



A3.30. Further information on the summer and autumn surveys is detailed in the Bat Activity Report **16452/R02**.

Biodiversity Net Gain

A3.31. The Statutory metric operates by calculating the number of biodiversity units associated with a particular habitat type (both pre-and post-development) – the ‘unit’ value associated with each habitat type is calculated based on the following parameters:

- Size (in hectares)/Length (in km);
- Distinctiveness (i.e. how rare/valuable a given habitat is);
- Condition (i.e. how well the recorded habitat fits [or will fit] the standardised description of that habitat); and
- Strategic significance (i.e. if the existing or proposed habitat is within an area formally adopted in the local plan for green infrastructure or biodiversity improvements).

A3.32. When considering the creation of new habitats in the post-development site, other factors are also considered when calculating the ‘unit’ value of a given habitat and these are:

- Time to reach the target condition of each habitat; and
- Difficulty category for the creation of a given habitat.

A3.33. A calculation has been undertaken using the baseline habitats identified during habitat condition assessment survey, which was carried out on the 12th December 2023 by Mari Jones BSc MSc, alongside the UKHabs survey above. The survey results, alongside the BNG baseline calculation, was updated on 8th May 2024 to ensure habitats were surveyed during the optimal botanical survey period.

A3.34. The UK Habitat Classification was used to identify habitat types. Note that the calculation is completed separately for non-linear and linear habitats. Habitat areas entered into the Defra Statutory metric in hectares were rounded to two decimal places.

Degradation

A3.35. Following comments from WBC, two trees were added to the metric baseline **16452/BNG/2**. This is based on paragraph 6 of the Biodiversity Gain in England; as these two trees were removed after 1st January 2020. In cases such as this, *"the onsite habitat must be taken to be the highest biodiversity value of the habitat which is reasonably supported by any available evidence relating to it"*³⁸.

A3.36. A site visit was undertaken to measure the widths of the remaining tree trunks on 19th November 2024, by Mari Jones BSc MSc. One tree trunk was measured at 55cm diameter at breast height, and the other was not visible due to bramble. These are trees T86 and T85 respectively in the Habitat Features and Ground Level Tree Assessment Plan **16452/P03b**. Therefore, these two trees

³⁸ <https://www.gov.uk/guidance/biodiversity-net-gain#para36> [Accessed 19/11/2024]



were added into the metric as one medium and one very large tree, both classed as 'irreplaceable', considered to be the highest biodiversity value based on available evidence. These were added in the 'Rural tree' row and the additional length was added to the 'Ecologically valuable line of trees' row, as an extension of TL5.

A3.37. It is acknowledged in **Section 4** of this report that the metric therefore registers a loss of irreplaceable habitat.

Modular River Physical (MoRPh) Survey

A3.38. A watercourse is present (Hatchgate Ditches, D1) within the site, along the western boundary, and a MoRPh survey was therefore undertaken on 4th June 2024 by Jessica Whittaker BSc (Hons) MSc, a certified MoRPh surveyor.

A3.39. The methodology was based upon that set out in the MoRPh Survey Technical Reference Manual 2022³⁹ and is used to gather information on short lengths (or modules) of a river that are used to assess overall river condition. The data recorded in each module to assess condition is comprised of 32 condition indicators, split between four morphological features (Bank Top, Bank Face, Channel-Water Margin and Channel Bed). MoRPh surveys included the river and all habitat within a radius of 10m of the watercourse.

A3.40. This survey covers at least 20% of the total river length adjacent to the site, and is broken down into sub reach surveys comprised of five contiguous MoRPh modules (MoRPh5) (see **Table A3.10** for breakdown of modules). The length of each module is approximately twice the river width, with a minimum length of 10m, and with each MoRPh5 located so as to be spread out as much as possible as well as to cover locations where noticeable changes in river condition occur e.g. areas of high riverine/riparian quality, areas of physical modification, areas where restoration could occur and areas of potential impact.

A3.41. In addition to the field survey, a desk based assessment is also completed to determine river type and to inform the completion of the condition assessment.

Table A3.10: Breakdown of Modules Completed

Total River Length* (metres)	20% of river length (metres)	River Width (metres)	Module length (metres)	MoRPh length (metres)	Number of MoRPhs completed
252	50.4	1	10	50	1

* Adjacent to site or where up to 10m riparian zone is present in site boundary

A3.42. Full condition indicator results are shown below in **Tables A3.11 – A3.12**.

Table A3.11: River Condition Indicators, pre- and post- development

River Condition Indicators	Pre	Post
----------------------------	-----	------

³⁹ Gunnell, A. and Shuker, L. (2022) The MoRPh survey: Technical reference Manual 2022 version.



Bank top vegetation structure	B1	2	2
Bank top tree feature richness	B2	3	3
Bank top water-related features	B3	0	0
Bank top NNIPS cover	B4	0	0
Bank top managed ground cover	B5	-3	-3
Bank face riparian vegetation structure	C1	3	3
Bank face tree feature richness	C2	2	2
Bank face natural bank profile extent	C3	3	3
Bank face natural bank profile richness	C4	4	4
Bank face natural bank material richness	C5	2	2
Bank face bare sediment extent	C6	2	2
Bank face artificial bank profile extent	C7	0	0
Bank face reinforcement extent	C8	0	0
Bank face reinforcement material severity	C9	0	0
Bank face NNIPS cover	C10	0	0
Channel margin aquatic vegetation extent	D1	2	2
Channel margin aquatic morphotype richness	D2	2	2
Channel margin physical feature extent	D3	1	1
Channel margin physical feature richness	D4	1	1
Channel margin artificial features	D5	0	0
Channel aquatic morphotype richness	E1	3	3
Channel bed tree features richness	E2	2	2
Channel bed hydraulic features richness	E3	0	0
Channel bed natural features extent	E4	2	2
Channel bed natural features richness	E5	1	1
Channel bed material richness	E6	2	2
Channel bed siltation	E7	-3	-3
Channel bed reinforcement extent	E8	0	0
Channel bed reinforcement severity	E9	0	0
Channel bed artificial features severity	E10	0	0
Channel bed NNIPS extent	E11	0	0
Channel bed filamentous algae extent	E12	-1	-1

Table A3.12: Indicator Totals, per- and post-

Pre Total		Post Total	
Average of positive scores	1.94737	Average of positive scores	1.94737
Average of negative scores	-0.53846	Average of negative scores	-0.53846
Provisional condition score	1.40891	Provisional condition score	1.40891



Evaluation

- A3.43. The evaluation of habitats and species is defined in accordance with published guidance⁴⁰. The scale of importance of each ecological feature is assigned within a defined geographical context, namely international and European, national, regional, county, district and local. Below these are features considered to be of negligible importance.
- A3.44. Consideration will also be given to legally protected or controlled species which are 'important features' in the context of this assessment, for which mitigation measures are required to ensure legal compliance, regardless of their geographic scale of importance. Thus, it is possible for a feature of negligible ecological importance to be legally protected and hence require mitigation.
- A3.45. Evaluation is based on various characteristics that can be used to identify ecological features likely to be important in terms of biodiversity. These include site designations (such as Sites of Species Scientific Interest (SSSIs), or for undesignated features, the size, conservation status (locally, nationally or internationally), and the quality of the ecological feature. In terms of the latter, quality can refer to habitats (for instance if they are particularly diverse, or a good example of a specific habitat type), other features (such as wildlife corridors or mosaics of habitats) or species populations or assemblages.

Impact Assessment

- A3.46. The assessment of impacts identifies impacts and their effects as a result of the proposed development on important ecological features. This includes consideration of impacts at all relevant stages of the development, including construction and operation/occupation. The assessment includes reference to legislation and policy, and supplementary planning guidance where relevant.

Application of Mitigation Hierarchy

- A3.47. Application of the mitigation hierarchy is fundamental to the ecological impact assessment process. This requires consideration of the following measures, in order of priority, for all potential impacts, to determine the most appropriate mitigation, compensation and enhancement strategy for the project. This is taken into account within this report and set out below:
- Avoidance – measures to avoid harm to ecological features;
 - Mitigation – measures to avoid or minimise potential impacts as part of the design or guaranteed by planning controls;
 - Compensation – measures required to offset significant residual negative effects following avoidance and mitigation; and
 - Enhancement – measures over and above requirements for avoidance, mitigation and compensation to provide biodiversity net gain.

⁴⁰ CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.

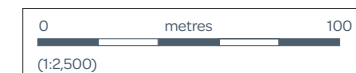


Appendix 4: Illustrative Masterplan





- Key
- Site boundary
 - 01 Primary vehicular access point
 - 02 Emergency, bus and pedestrian cycle access only
 - 03 Retained and enhanced vegetation
 - 04 Primary access road and bus route
 - 05 Community orchard
 - 06 Sustainable drainage system including swales
 - 07 Pedestrian and cycle connection point
 - 08 Meadow planting and species-rich landscapes
 - 09 Pedestrian/cyclist, bus and emergency vehicle access link onto Tape Lane
 - 10 Car club parking space
 - 11 Shared pedestrian and cycle footpath
 - 12 Children's play space
 - 13 Extension to Tape Lane Allotments
 - ★ Mobility hub, including short-stay cycle parking, a bike repair/cycle maintenance area, a bus stop and parcel drop-off/pick-up lockers
 - Potential alternative pedestrian/cycle connection to local shop (subject to agreement with St Nicholas Hurst Parish Council)



CLIENT:
Mactaggart & Mickel Strategic Land

PROJECT:
Land off Lodge Road, Hurst

DRAWING:
Illustrative Masterplan

PROJECT NUMBER:
1422

DRAWING NUMBER: 003-01
CHECKED BY: SR

REVISION: B
STATUS: Draft

DATE: 15/07/2024
SCALE: 1:2,500

Appendix 5: SureScreen GCN_Report_2928-2024



Folio No: 2928-2024
Purchase Order: PT-071616
Contact: Tyler Grange
Issue Date: 08.07.2024
Received Date: 04.07.2024

GCN Report

Technical Report



SureScreen Scientifics

Folio No: 2928-2024
Purchase Order: PT-071616
Contact: Tyler Grange
Issue Date: 08.07.2024
Received Date: 04.07.2024

GCN eDNA Analysis

Summary

When great crested newts (GCN), *Triturus cristatus* , inhabit a pond, they continuously release small amounts of their DNA into the environment. By collecting and analyzing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

Results

Lab ID	Site Name	OS Reference	Inhibition Check	Degradation Check	Result	Positive Replicates
7668	Hurst, WB6	SU7995873621	Pass	Pass	Positive	1/12
7669	Hurst, WB5	SU7989773747	Pass	Pass	Positive	3/12

Matters affecting result: none

Reported by: Daisy Chambers

Approved by: Chelsea Warner



Methodology

The samples detailed above have been analyzed for the presence of GCN eDNA following the protocol stated in DEFRA WC1067 'Analytical and methodological development for improved surveillance of the Great Crested Newt, Appendix 5.' (Biggs et al. 2014). Each of the 6 sub-sample tubes are first centrifuged and pooled together into a single sample tube which then undergoes DNA extraction. The extracted sample is then analyzed using real-time PCR (qPCR), which uses species-specific molecular markers to amplify GCN DNA within a sample. These markers are unique to GCN DNA, meaning that there should be no detection of closely related species.

If GCN DNA is present, the DNA is amplified up to a detectable level, resulting in positive species detection. If GCN DNA is not present then amplification does not occur, and a negative result is recorded. Analysis of eDNA requires attention to detail to prevent the risk of contamination. True positive controls, negative controls, and spiked synthetic DNA are included in every analysis and these have to be correct before any result is declared and reported. Stages of the DNA analysis are also conducted in different buildings at our premises for added analytical security.

SureScreen Scientifics Ltd is ISO9001 accredited and participates in Natural England's proficiency testing scheme for GCN eDNA testing.

Interpretation of Results

- Sample Integrity Check:** When samples are received in the laboratory, they are inspected for any tube leakage, suitability of sample (not too much mud or weed etc.) and absence of any factors that could potentially lead to inconclusive results. Any samples which fail this test are rejected and eliminated before analysis.
- Degradation Check:** **Pass/Fail.** Analysis of the spiked DNA marker to see if there has been degradation of the kit or sample between the date it was made to the date of analysis. Degradation of the spiked DNA marker may lead indicate a risk of false negative results.
- Inhibition Check:** **Pass/Fail.** The presence of inhibitors within a sample is assessed using a DNA marker. If inhibition is detected, samples are purified and re-analyzed. Inhibitors cannot always be removed, if the inhibition check fails, the sample should be re-collected.
- Result:** **Presence of GCN eDNA (Positive/Negative/Inconclusive)**
Positive: GCN DNA was identified within the sample, indicative of GCN presence within the sampling location at the time the sample was taken or within the recent past at the sampling location.
Positive Replicates: Number of positive qPCR replicates out of a series of 12. If one or more of these are found to be positive the pond is declared positive for GCN presence. It may be assumed that small fractions of positive analyses suggest low level presence, but this cannot currently be used for population studies. In accordance with the WC1067 Natural England protocol, even a score of 1/12 is declared positive. 0/12 indicates negative GCN presence.
Negative: GCN eDNA was not detected or is below the threshold detection level and the test result should be considered as evidence of GCN absence, however, does not exclude the potential for GCN presence below the limit of detection.
Inconclusive: Controls indicate inhibition or degradation of the sample, resulting in the inability to provide conclusive evidence for GCN presence or absence.

Plans:

Plan 1: Habitat Features and Ground Level Tree Assessment Plan
16452/P03b

Plan 2: Waterbodies Plan **16452/P04**

Plan 3: Badger Survey Results Plan **16452/P05**

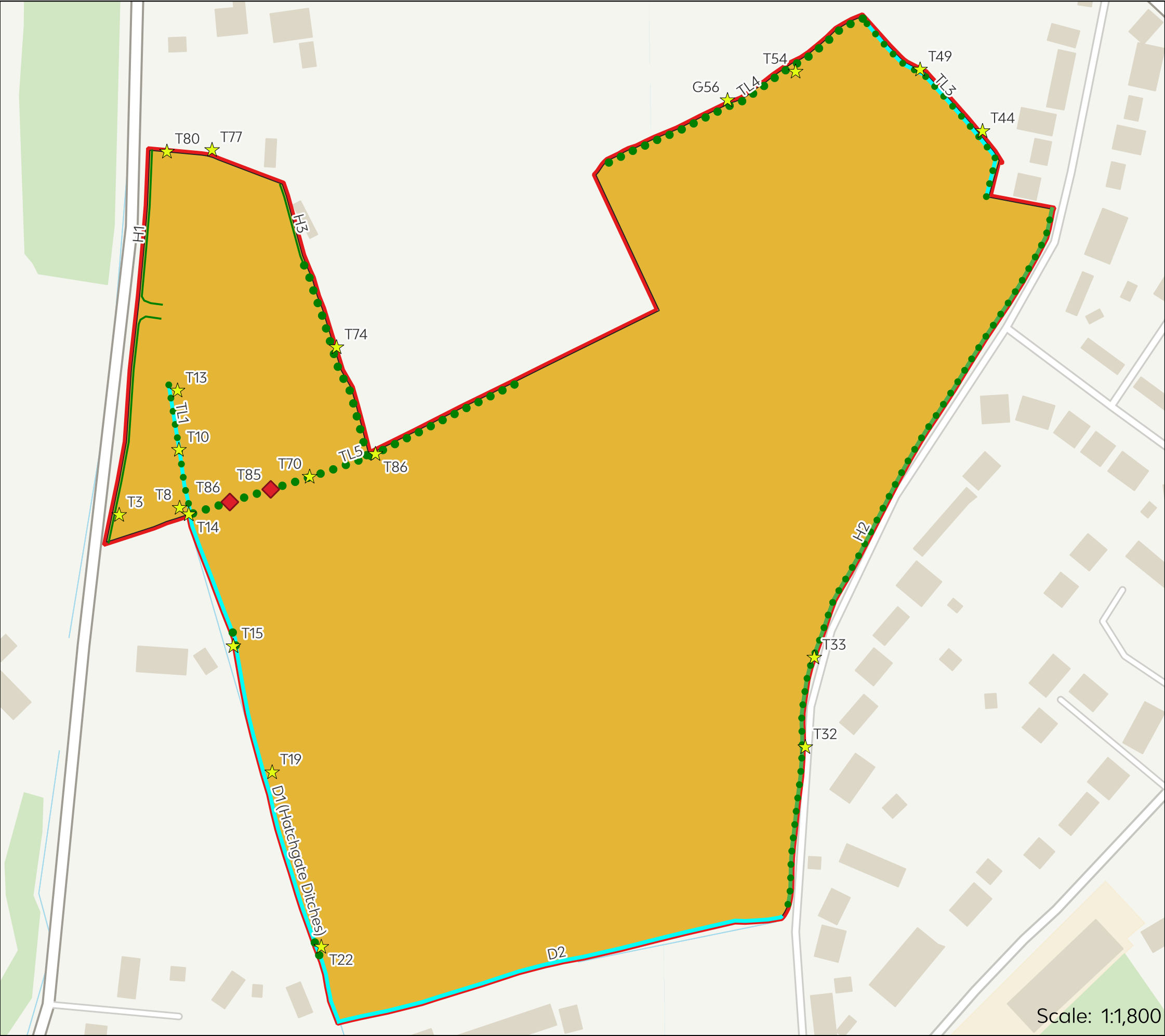
Plan 4: Bat Activity Survey Plan **16452/P06a**

Plan 5: Reptile Survey Results Plan **16452/P08**

Plan 6: Post-development Habitats Plan **16452/P09**

Plan 7: Modular River Physical Survey Plan **16452/P10**





Legend

 Indicative red line boundary

Habitats

 Modified grassland

 Ecologically valuable line of trees

 Native hedgerow

 Native hedgerow with trees

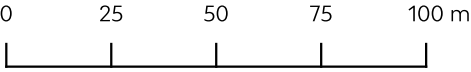
 Ecologically valuable line of trees associated with ditch

 Ditch

 Removed trees

Ground Level Tree Assessment

 Trees with bat roost potential

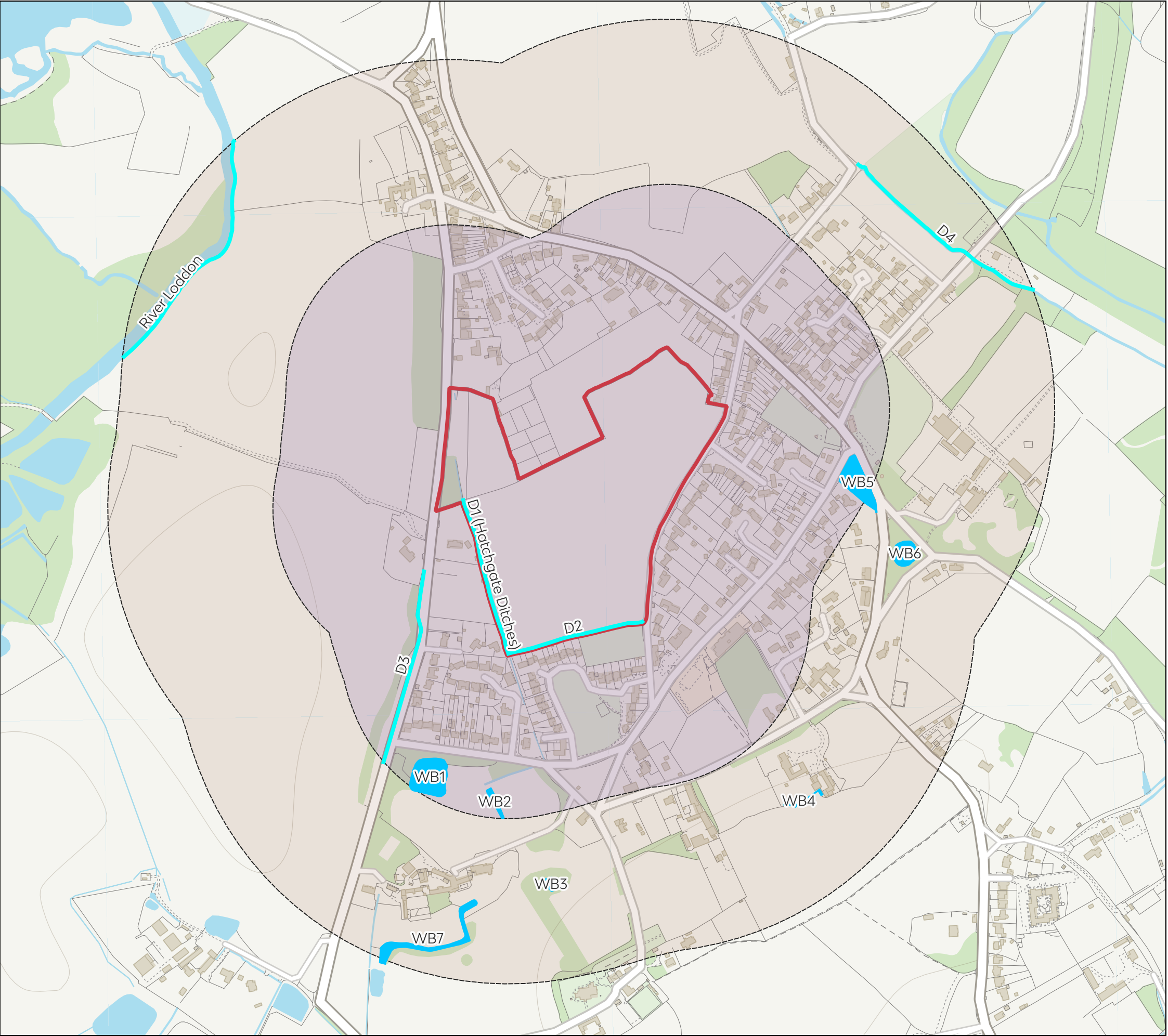


Project	Land east of Lodge Road, Hurst
Drawing Title	Habitats Features and Ground Level Tree Assessment Plan
Scale	As Shown (Approximate)
Drawing No.	16452/P03b
Date	November 2024
Checked	MJ/CGS



97 Icknield Street, Hockley, Birmingham, B18 6RU
T: 0121 828 4043 E: hello@tylergrange.co.uk W: tylergrange.co.uk

Scale: 1:1,800

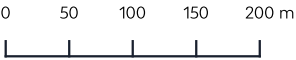


Legend

-  Indicative red line boundary
-  250m buffer
-  500m buffer

Waterbodies

-  Watercourses
-  Ponds



Project	Land east of Lodge Road, Hurst
Drawing Title	Waterbodies Plan
Scale	As Shown (Approximate)
Drawing No.	16452/P04
Date	July 2024
Checked	MJ/CGS



97 Icknield Street, Hockley, Birmingham, B18 6RU
T: 0121 828 4043 E: hello@tylergrange.co.uk W: tylergrange.co.uk



Legend

- Indicative red line boundary
- Badger signs
- 30m buffer



Project	Land east of Lodge Road, Hurst
Drawing Title	Badger Survey Results Plan
Scale	As Shown (Approximate)
Drawing No.	16452/P05
Date	July 2024
Checked	MJ/CGS



97 Icknield Street, Hockley, Birmingham, B18 6RU
T: 0121 828 4043 E: hello@tylergrange.co.uk W: tylergrange.co.uk



Legend

Indicative red line boundary

Transect route

Static detector locations

Bat Species

Eptesicus serotinus

Nyctalus noctula

Nyctalus sp.

Pipistrellus pipistrellus

Pipistrellus pygmaeus

Plecotus auritus

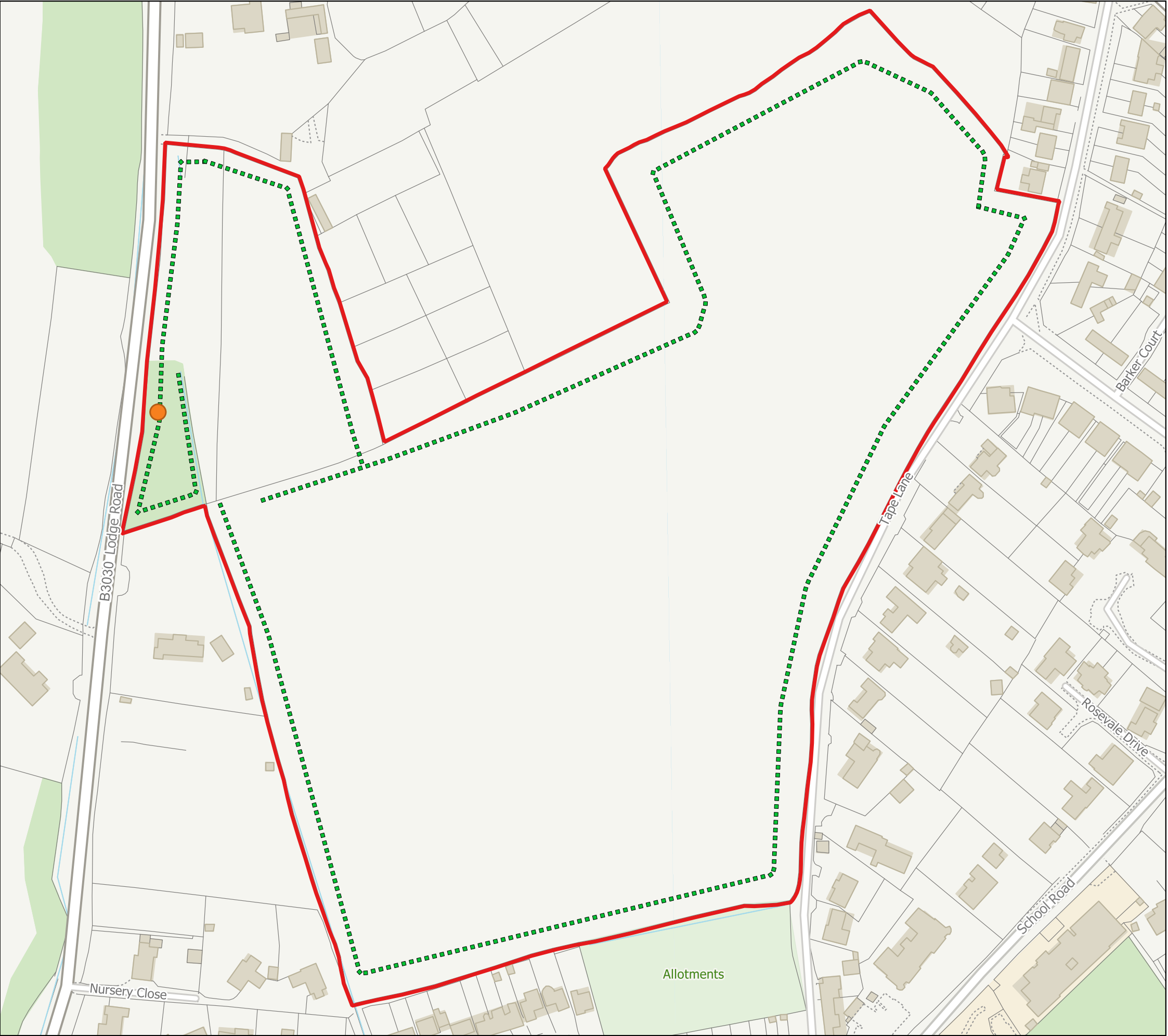
Myotis



Project	Land east of Lodge Road, Hurst
Drawing Title	Bat Activity Survey Plan
Scale	As Shown (Approximate)
Drawing No.	16452/P06a
Date	September 2024
Checked	MJ/CGS



97 Icknield Street, Hockley, Birmingham, B18 6RU
T: 0121 828 4043 E: hello@tylergrange.co.uk W: tylergrange.co.uk



Legend

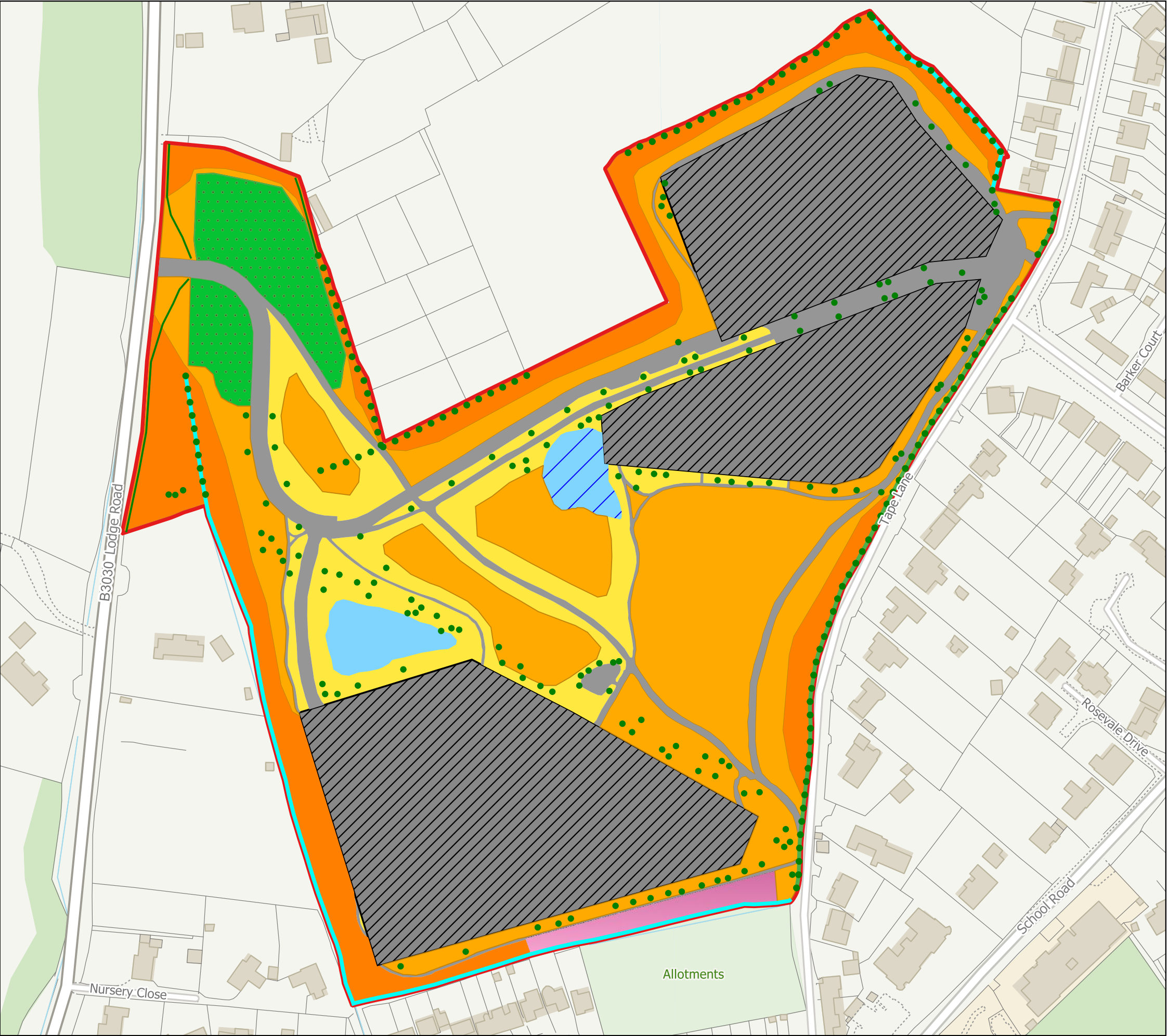
-  Indicative red line boundary
-  Indicative reptile refugia locations
-  Juvenile grass snake



Project	Land east of Lodge Road, Hurst
Drawing Title	Reptile Survey Results Plan
Scale	As Shown (Approximate)
Drawing No.	16452/P08
Date	July 2024
Checked	MJ/CGS



97 Icknield Street, Hockley, Birmingham, B18 6RU
T: 0121 828 4043 E: hello@tylergrange.co.uk W: tylergrange.co.uk



Legend

 Indicative red line boundary

Habitats

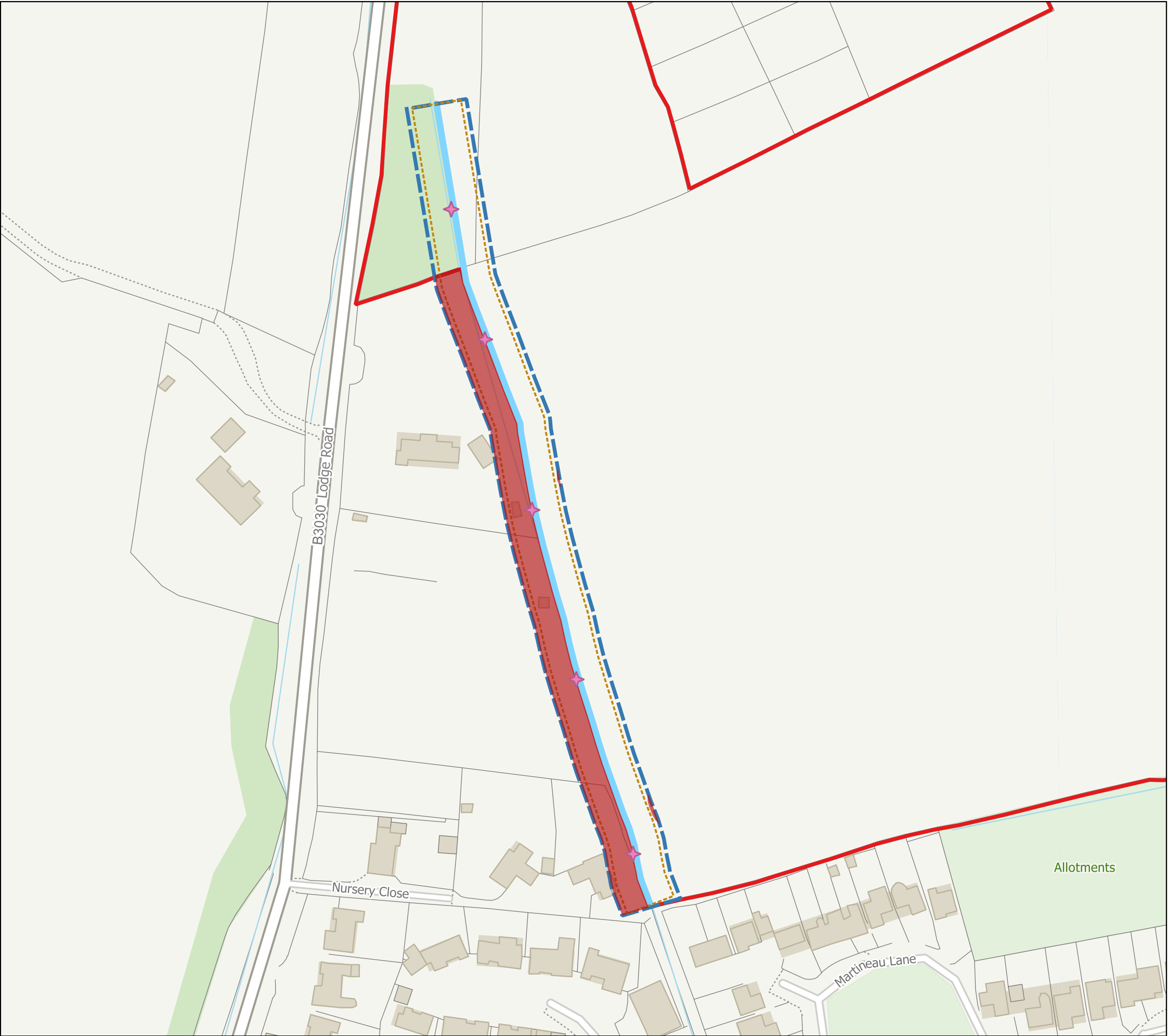
-  Allotments
-  Residential
-  Bioswale
-  Developed land; sealed surface
-  Pond
-  Traditional orchard
-  Modified grassland
-  Other neutral grassland (Retained)
-  Other neutral grassland
-  Ditch
-  Line of trees
-  Line of trees with ditch
-  Native hedgerow
-  Native hedgerow with trees
-  Tree planting



Project	Land east of Lodge Road, Hurst
Drawing Title	Post-development Habitats Plan
Scale	As Shown (Approximate)
Drawing No.	16452/P09
Date	July 2024
Checked	MJ/CGS



97 Icknield Street, Hockley, Birmingham, B18 6RU
T: 0121 828 4043 E: hello@tylergrange.co.uk W: tylergrange.co.uk



Legend

 Indicative red line boundary

Modular River Physical Survey

 Hatchgate Ditches (D1)

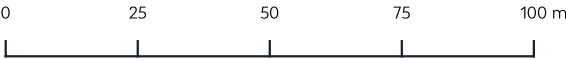
 MoRPh5 Locations

 10m riparian zone

 8m riparian zone

 Encroachment post-development

At baseline, both sides of Hatchgate ditches were entirely encroached due to the site's use as horse grazed pasture.



Project	Land east of Lodge Road, Hurst
Drawing Title	Modular River Physical Survey Plan
Scale	As Shown (Approximate)
Drawing No.	16452/P10
Date	July 2024
Checked	MJ/CC



97 Icknield Street, Hockley, Birmingham, B18 6RU
T: 0121 828 4043 E: hello@tylergrange.co.uk W: tylergrange.co.uk

An abstract collage of various geometric shapes and icons in shades of blue, yellow, and black. The shapes include triangles, squares, and irregular polygons. Icons include a hand, a downward-pointing arrow, a starburst, and a fan-like shape. The background is a solid dark blue.

Step into our world

www.tylergrange.co.uk



**Tyler
Grange**

Landscape | Ecology | Arboriculture