Ecological Impact Assessment

Land situated to the east of Brascote Lane and south of Arnold's Crescent, Newbold Verdon

18th July 2024

Tyler Grange

TG Report No. 16602_R04a_EJ

Project No:	Report No.	Date	Revision
16602	R04a	18th July 2024	-

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Summary

S.1. This report has been prepared by Tyler Grange Group Ltd on behalf of Richborough Estates Ltd. It sets out the findings of an Ecological Impact Assessment (EcIA) on land situated to the east of Brascote Lane and south of Arnold's Crescent, Newbold Verdon (OS Grid Reference SK 44864 03304).

S.2. The planning application boundary extends in total to 13.77ha hectares (hereinafter referred to as the "Combined Site"), which comprises the following:

- 6.91 hectares of land to the east of Brascote Lane and south of the Thurlaston Brook, which benefits from an extant planning permission under reference 22/00277/OUT, for the purpose only of providing access/egress to the public highway known as Brascote Lane (Phase 1); and;
- 6.86 hectares of land to the south of Arnold's Crescent and north of the Thurlaston Brook, for up to 135 dwellings with associated landscaping, open space, drainage infrastructure and associated works (all matters reserved except access from Brascote Lane Phase 2).

S.3. On the basis that Phase 1 has the benefit of planning permission, the scope of this EcIA focusses upon the outline planning application for Phase 2, (hereinafter referred to as the "Site").

S.4. The site is not covered by any statutory sites designated for nature conservation. The Newbold Verdon stream hedge potential local wildlife site (pLWS) is located on the site's southern boundary. The proposals necessitate unavoidable impacts to this hedgerow due to the creation of two access roads, resulting in a loss of 0.04km of hedgerow. The proposed development design has followed the mitigation hierarchy as specified in local policy DM6 Enhancement of Biodiversity and Geodiversity by: avoiding impacts where possible, through siting the access roads in the least ecologically impactful locations possible; mitigating impacts to the retained hedgerow through the adoption of precautionary construction methods and incorporating an appropriate ecological buffer zone; and, compensation through providing 0.15km of replacement hedgerow planting within the site designed to replicate the hedgerow type to be lost. No impacts to any other identified designated sites are anticipated provided that precautionary construction methods are adopted.

S.5. Proposals for the site include the retention of the majority of habitats of ecological importance, including wet woodland, mature trees, and the majority of the boundary hedgerows, treeline and watercourse. There will be a loss of discrete sections of hedgerow and treeline, and discrete culverting of sections of the Thurlaston brook watercourse to facilitate new site access. The development will also result in the loss of areas of modified and other neutral grassland. The proposals include the creation of new areas of grassland, ecologically designed sustainable drainage systems, tree and hedge planting, and scrub/shrub planting, which will provide new onsite habitats with species of known value to biodiversity.

S.6. A biodiversity net gain calculation completed using the Statutory Metric will be provided in a separate report.

S.7. The site has the potential to support foraging and commuting bats. As such detailed bat activity surveys are currently being undertaken in the optimal season. The methodology, metadata and results, along with any mitigation and enhancement measures will be provided in a subsequent addendum report. Nevertheless, bats have been considered during the design of the development

to ensure that features likely to be of the highest value are retained where possible, namely woodland, mature trees, and boundary hedgerows and treelines. Compensation, mitigation and enhancement measures, including the provision of new roosting opportunities, the retention and creation of dark corridors, and a habitat creation scheme designed to maximise opportunities for bats have also been considered during the development design and will be incorporated into the scheme.

S.8. Tree T7 will require removal to facilitate the western site access, and the tree has potential to support roosting bats. Bat emergence and/or aerial climbing inspections will therefore be undertaken in the optimal survey season, with an addendum report detailing methodology, results and mitigation requirements to follow.

S.9. The site also has the potential to support common amphibian species, birds, badger *Meles meles*, hedgehog *Erinaceus europaeus*, common invertebrates, and common reptile species, and precautionary construction methods have been recommended as appropriate. The proposed habitat creation and enhancement measures outlined in this report will provide an overall enhancement for a varied assemblage of protected, priority and common species likely to utilise the site.

S.10. Subject to the mitigation and enhancement measures outlined in this report, it is considered that the proposed development would be in conformity with Hinckley and Bosworth Borough Council local policy DM6, and relevant national planning policy and legislation.

Section 1: Introduction and Methods

Purpose

1.1. This report has been prepared by Tyler Grange Group Ltd on behalf of Richborough Estates Ltd. It sets out the findings of an Ecological Impact Assessment (EcIA) of land situated to the east of Brascote Lane and south of Arnold's Crescent, Newbold Verdon (OS Grid Reference SK 44864 03304).

1.2. The planning application boundary extends in total to 13.77ha hectares (hereinafter referred to as the "Combined Site"), which comprises the following:

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- 6.86 hectares of land to the south of Arnold's Crescent and north of the Thurlaston Brook, for up to 135 dwellings with associated landscaping, open space, drainage infrastructure and associated works (all matters reserved except access from Brascote Lane (Phase 2).

1.3. On the basis that Phase 1 has the benefit of planning permission, the scope of this EcIA focusses upon an outline planning application for Phase 2, hereinafter referred to as the 'site'. The combined site is shown in **Figure 1.1**, below. Proposals for the site associated with this EcIA are illustrated in **Appendix 1**.

Figure 1.1: Phased Boundary Plan, with the site area to be considered as part of this EcIA highlighted in pink, and Phase 1 portion highlighted grey.

1.4. 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 (ZoI) 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.

1.5. This assessment and the terminology used are consistent with the Guidelines for Ecological Impact Assessment[2], published by the Chartered Institute of Ecology and Environmental Management (CIEEM).

Methodology

1.6. The scope of this EcIA was determined by undertaking a desk-based assessment of available records and published sources, together with an initial site survey. With this information, the ZoI of the proposed development was established, together with any further detailed surveys, that might be necessary to inform the assessment.

1.7. Detailed methodologies are provided in **Appendix 3**. This EcIA has been informed by the following:

- A desk study and records search;
- 'Extended' Phase 1 and UKHabs Survey; and
- Ground Level Tree Assessment (GLTA) for bats.

1.8. As discussed in the following sections, further surveys are currently being undertaken with respect to bats. The methodology and results of these surveys will be provided in a subsequent report, however a precautionary approach has been taken to ensure the development design incorporates features most likely to be of value to these species should they be present.

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

1.9. The assessment and the terminology used are consistent with the 'Guidelines for Ecological Impact Assessment' published by the Chartered Institute of Ecology and Environmental Management (CIEEM)[3]

Quality Control

1.10. All ecologists at Tyler Grange Group Limited are members of the CIEEM or are working towards membership, and act under the direction of members and abide by the Institute's Code of Professional Conduct[4]. This report has been through a two-stage technical review process, with the final sign off being undertaken by an Associated or Full member of CIEEM.

[3]https://cieem.net/wp-content/uploads/2018/08/ECIA-Guidelines-2018-Terrestrial-Freshwater-Coastal-and-MarineV1.1Update.pdf

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

Section 2: Ecological Features and Evaluation

Site Context

2.1. The site is located to the south of the village of Newbold Verdon. The site is approximately 6.86 hectares in size and predominantly comprises a grassland field (modified and neutral grassland), wet woodland, and scattered mature trees. A stream (Thurlaston Brook) flows east to west along the southern boundary of the site, which is lined with a native treeline on the northern embankment, and a species rich native hedgerow on the southern embankment. The eastern and northern boundaries are also bounded with native hedgerows.

2.2. The site is immediately surrounded by residential gardens and development to the north, allotments to the west, arable farmland to the south, and further grassland (including amenity cricket pitches) to the east. The wider landscape primarily comprises the residential area of Newbold Verdon and agricultural land.

2.3. Aerial imagery, which is publicly available on Google Earth (see **Figure 2.1** below) is considered to be in date, and generally representative of the current state of the onsite habitats.

Figure 2.1 Site boundary for the residential development.

Designated Sites

Statutory Sites

2.4. The site is not covered by any statutory or non-statutory sites designated for nature conservation importance.

2.5. The site falls within a Site of Special Scientific Interest (SSSI) Impact Risk Zone (IRZ) for Botcheston Bog SSSI (located approximately 3.7 km north east of the site), which is used to assess applications for likely impacts on statutorily designated sites. However, the proposed

development for the site does not fall under the qualifying descriptions for potential impacts, which include: airports, helipads and other aviation proposals; livestock and poultry units; slurry lagoons and digestate stores, and manure lagoons.

2.6. As such, no further consultation with Natural England would be required, and therefore statutory designated sites are **not discussed further within this report.**

Non-Statutory Sites

2.7. In Leicestershire, non-statutorily designated sites for nature conservation are referred to as Local Wildlife Sites (LWS). LWS are categorised as either Notified, Candidate LWS (cLWS), or Potential (pLWS).

2.8. Notified sites have been through the full selection process for LWS. Candidate sites are known though survey data to already meet LWS criteria but have not yet been fully adopted. Potential LWS are likely to meet LWS criteria, but further survey work is required to confirm.[5] Candidate LWS have the same consideration in planning terms as Notified LWS. These cLWS and pLWS include historic designations, which were classified before the adoption of the current LWS selection criteria, although these sites may meet the criteria for selection for LWS.

2.9. Two notified LWS were recorded in the study area, the details of which are provided in **Table 2.1** below.

Table 2.1: Notified Non-statutory designated sites within the study area.

Name	Distance and direction from site	Reason For Designation
Brascote Covert, Kirkby Mallory (Notified LWS)	0.07 km south	Designated for broad-leaved woodland habitat which meets the LWS selection criteria.
Manor Farm Meadow (Notified LWS)	0.08 km southwest	Designated for mesotrophic grassland habitat which meets the LWS selection criteria..

2.10. There are four candidate LWS located within the study area, the nearest being Brascote and Fox Coverts and associated grassland, located 0.8 km south of the site.

2.11. There are four potential LWS located immediately adjacent to or near the site boundary:

- Newbold Verdon, stream hedge (site boundary);
- Newbold Verdon, pavilion green lane hedge (east) (approximately 2 metres east of the site);
- Grassland; (approximately 5 metres east of the site); and

[5] https://resources.leicestershire.gov.uk/sites/resource/files/field/pdf/2020/6/29/FS5-Protected-sites.pdf

- Newbold Verdon, hedge (approximately 10 metres south of the site).

2.12. The locations of the four pLWS are provided in **Figure 2.2** below.

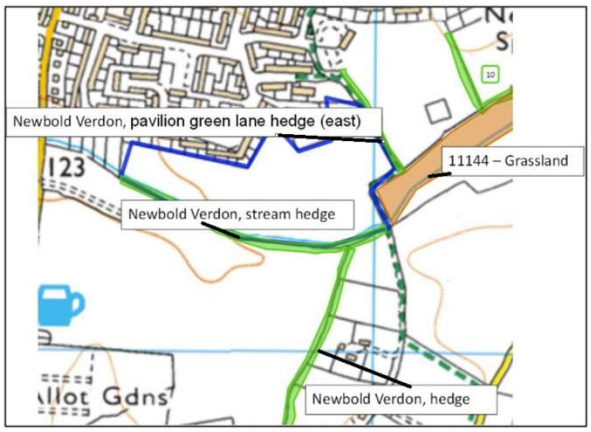


Figure 2.2 pLWS on or adjacent to the site.

2.13. There are a further 36 pLWS located within the study area, the closest outside of the four listed above being approximately 0.2 km northeast of the site.

2.14. LWS are selected on the basis that they meet the criteria for LWS selection for sites of ecological importance at county level[6]. They are therefore of **county ecological importance**. They do not receive statutory protection but are protected from damage and development by local and national planning policy.

Habitats and Flora

2.15. The habitats present on site are summarised overleaf 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 is shown on the Habitats Features Plan **16602/P013**.

[6] LERC. DRAFT North West Leicestershire: Ecological Network Report. May 2015. https://www.nwleics.gov.uk/files/documents/ecological_networks_report_may_2015/Ecological%20Networks%20report.pdf

Table 2.2. Habitats identified on site.

Habitat	Description and Species	Ecological Importance	Photograph
Modified grassland g4	Modified grassland dominates the site. This habitat appeared to be managed through regular cutting. Sward height varied between 7 – 20 cm. The species identified within this habitat include perennial rye-grass *Lolium perenne*, Yorkshire fog *Holcus lanatus*, cock's-foot *Dactylis glomerata*, ribwort plantain *Plantago lanceolata*, cow parsley *Anthriscus sylvestris*, hogweed *Heracleum sphondylium*, nettle *Urtica dioica*, bramble *Rubus fruticosus*, germander speedwell *Veronica chamaedrys* and daffodil *Narcissus pseudonarcissus*.	The modified grassland habitat comprised common and widespread species, and is considered to be of **local ecological importance**.	
Other Neutral Grassland (g3c & g3c8)	Areas of other neutral grassland were recorded around the site boundaries, and were classified as 'other neutral grassland (g3c) and *Holcus-Juncus* neutral grassland (g3c8). In the northern sections of this site, this was characterised by more diverse grassland mix, including cocks'-foot, Yorkshire fog, broad-leaved dock *Rumex obtusifolius*, creeping thistle *Cirsium arvense*, common mallow *Malva sylvestris*, hogweed, cow parsley and bramble. In the southern and western sections of the site, which were generally more inundated, the grassland was dominated by Yorkshire fog, cock's-foot, and soft rush *Juncus effusus*.	Whilst showing increased species diversity, the neutral grassland habitat comprised common and widespread species, and was of a limited extent. As such it is considered to be of **local ecological importance**.	 

Wet woodland w1d	Within the western corner of the site is an area of wet woodland, which at the time of survey was inundated with water. The wet woodland has limited bramble understorey with deadwood present. The bramble becomes dense within the north-western section of the habitat, which limited access at the time of survey. Species present in this habitat include alder *Alnus glutinosa*, crack willow *Salix fragilis*, goat willow *Salix caprea*, elder *Sambucus nigra*, soft rush, iris *Iris sp.*, bramble, cow parsley, and lords-and-ladies *Arum maculatum*.	Wet woodland is a UK Priority Habitat, and is identified as a Priority Habitat within the Leicester, Leicestershire and Rutland Biodiversity Action Plan[7]. This habitat is therefore considered to be of at least **local ecological importance**.	
Native Hedgerow H2a	A total of 6 native hedgerows were recorded along the boundaries of the site. These were well managed through flailing. The hedgerows on site were c.2 m in height and 1 m in width, varying between 24 and 124 m in length. Species identified along the hedgerows include hawthorn *Crataegus monogyna*, hazel *Corylus avellana*, holly *Ilex aquifolium* and ivy *Hedera helix*.	All hedgerows consisting predominantly (over 80% cover) of at least one woody UK native species are classified as Habitats of Principal Importance. As such, the onsite hedgerows are considered to be of **local ecological importance**, or have the potential to be restored to **local ecological importance** through appropriate management.	
Non-native and ornamental Hedgerow H2b	One ornamental hedgerow is located on site which is 4 m in height, 37 m in length and 1.5 m in width. The non-native hedgerow is comprised of Leyland cypress *Cupressus x leylandii*.		

[7] BAP space for wildlife part 1 (lrwt.org.uk)

Species Rich Native Hedgerow H2a5	An unmanaged hedgerow, with an associated stream (Thurlaston Brook), is located along the site's southern boundary, this hedgerow is 334 m in length, c.3 m in height and c.2 m in width. Species identified along the hedgerows include hawthorn, Blackthorn *Prunus spinosa*, holly, goat willow, hazel, field maple *Acer campestre,* yew *Taxus baccata*, pedunculate oak *Quercus robur* and common alder.	The hedgerow is also a potential LWS, known as the Newbold Verdon, stream hedge. This hedgerow therefore has the potential to be of **county ecological importance.**	
Ecologically valuable Line of trees associated with bank or ditch w34	Along the southern boundary is a line of trees which runs along the stream (Thurlaston Brook). Species present in this habitat include alder, ash *Fraxinus excelsior*, crack willow, goat Willow, hawthorn, hazel and pedunculate oak.	The treeline is considered to be of at least **local ecological importance**.	
Rivers and streams r2b	Along the southern boundary of the site is a narrow flowing stream (Thurlaston Brook) located between the line of trees and the species rich native hedgerow. The stream is a straight/sinuous with average sediment size of sand. The banks of the stream are predominantly earth and clay, with a varying slope on the embankment. The stream is heavily shaded, with no evident aquatic vegetation.	The stream provides hydrological connectivity between the site and the wider landscape, including to the River Soar. It is therefore considered to be of **county ecological importance**.	

Rural Trees	Three mature pedunculate oak trees are present within the centre of the site located in the grassland habitat.	The trees are mature, and are considered to be of **local ecological importance**.	

Protected and Notable Species

2.16. 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 results of the desk study, are not discussed.

Amphibians

2.17. LRERC returned 22 records of great crested newt (GCN) *Triturus cristatus* within 2km of the site, the closest approximately 1.3 km south-west in 2014.

2.18. A total of 7 records of other amphibian species were returned from the desk study, within 2 km of the site boundary. The closest record was of common frog *Rana temporaria* which was 500 metres northeast of the site and from May 2003.

2.19. According to MAGIC website, there are an additional 12 records of GCN within a 2km radius, provided by Natural England Class Licence returns and pond survey data, the closest being approximately 1.3 km south-west from 2014.

2.20. There is a stream which runs along the southern site boundary. At the time of the 'extended' UK Habs survey, this feature had a flow, with no areas of standing water suitable for breeding GCN. The taller grassland habitats on site (neutral grassland and other neutral grassland), wet woodland, hedgerows and tree line all provide suitable habitats for GCN during the terrestrial phase of the species.

2.21. No ponds were identified to be within 250 metres of the site boundary, which is generally considered to be within the typical migratory range of GCN from a waterbody[8]. There are 2 ponds located within 500 m of the site boundary (located at SK44210300 and SK44530281). These ponds are however south of the flowing stream that runs along the site's southern boundary, which acts as a potential barrier to dispersal to site.

2.22. Given the lack of suitable aquatic habitats on site, the absence of ponds within 250 m of the site boundary along with the barriers to dispersal to ponds within 500 m of the site boundary, the site is considered unlikely to support GCN and GCN are considered **likely absent from the site**.

2.23. Other more mobile amphibian species such as common toad may be present utilising terrestrial habitats on site, such as the taller grassland field margins, wet woodland and hedgerow bases. Common toads are a priority species under The Natural Environment and Rural Communities (NERC) Act 2006. It is likely that common amphibian species will also be using further habitats beyond the site boundary and not reliant on the site alone.

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

2.24. As such any population of amphibians such as common toad on site would be of negligible ecological importance.

Badger

2.25. The desk study returned 46 records of badger *Meles meles* within 2 km of the site boundary from LRERC. The nearest of these records was 350 metres south of the site boundary and was from February 2022.

2.26. The habitats present on site provide optimal habitats for foraging, commuting and sett building. During the 'extended' UK Habs survey, no evidence of badgers including latrines, tracks, snuffle holes, scratch marks on trees, or setts were found within the site boundary.

2.27. Badgers are protected for welfare rather than conservation reasons, principally to protect them from persecution. They are a common and widespread species, and as such any badger population using the site would likely be of **negligible ecological importance**. However, consideration will need to be given to ensure their protection during the installation and operational phases of the development.

Bats

2.28. The desk study returned records of eight different bat species and records of bats that could not be identified to the species level, within 2 km of the site boundary. Species recorded included; brown long-eared bat *Plecotus auritus*, common pipistrelle *Pipistrellus pipistrellus*, Daubenton's bat *Myotis* daubentonii, Leisler's bat *Nyctalus leisleri*, Nathusius' bat *Pipistrellus* natusii, Natterer's bat *Nytois nattereri*, noctule Nyctalus noctula and soprano pipistrelle *Pipistrellus pygmaeus*. The nearest of these was a record of brown long-eared bat 130 metres west of the site from 2010.

2.29. In addition, two EPS licences for bats were returned within a 4 km radius of the site. The closest licence was located 3.5 km northeast of the site (case reference: EPSM2010-1623) and was granted for the destruction of a resting place and breeding site of brown long eared bat.

Preliminary Bat Roost Assessment

2.30. A Ground Level Tree Assessment (GLTA) was undertaken alongside the 'extended' Phase 1 habitat 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 detailed results. Locations of trees with potential roost features (PRF) are visualised on **16602/P13.**

2.31. A large mature oak within the south-western section of the site, was determined to have high potential to support roosting bats (PRF-M), along with a dead tree in the southern treeline (T8 and T14, respectively.) The tree line along the southern site boundary contained 11 trees with low potential to support roosting bats (PRF-I) (namely trees in groups G1 and G2, T4, T7, T16, and T19. Trees T4, G1a, G1b, G1c, T19 and T16) along with two mature oak trees within the south-western boundary of the site (Tree T9 and T10).

2.32. All other trees located on or adjacent to site were considered to have negligible potential to support roosting bats.

2.33. Trees in tree group G2, and T14 are a minimum of 20m from the proposed site accesses, and such are not considered likely to be impacted by the creation of the new access roads.

2.34. Tree T7 is currently shown as requiring removal to facilitate the western access road. Therefore, to fully understand the impacts relating to roosting bats from the removal of tree T7, bat emergence or aerial inspection surveys of the tree will be undertaken in the optimal season.

2.35. No other trees with bat potential are to be lost, and any trees with bat potential (apart from tree T7) will be retained within suitable buffers to development.

Foraging and Commuting

2.36. Habitats on site, including woodland and mature trees, and boundary hedgerows and treelines and watercourses provide potential for foraging and commuting bats.

2.37. Therefore, to fully understand the impacts of the proposed development on foraging and commuting bats, activity surveys including nighttime bat walkover surveys and static detector deployments are being undertaken in the optimal season.

Birds

2.38. The desk study returned a total of 31 species of bird within 2 km of the site boundary from LRERC. Of these, some species of relevance to the site include species listed on the Birds of Conservation Concern (BoCC)[9] red list, including cuckoo *Cuculus canorus,* curlew *Numenius arquata,* fieldfare *Turdus pilaris*, goldeneye *Bucephala clangula*, grasshopper warbler *Locustella naevia*, house sparrow *Passer domesticus*, lapwing *Vanellus vanellus*, redwing *Turdus iliacus,* grey partridge *Perdix perdix*, herring gull *Larus argentatus,* house martin *Delichon urbicum* and lesser spotted woodpecker *Dendrocopos minor*.

2.39. The boundary hedgerows, wet woodland and mature trees provide breeding opportunities for a range of common and priority birds, and the grassland habitats may provide further foraging opportunities. Due to the size, management, proximity to residential development, and 'enclosure' of the site by tall treelines and hedgerows, opportunities for ground nesting birds within the site are very limited, although are readily available in the wider area.

2.40. Given the abundance of similar habitat types within the wider area, it is considered that any assemblage of bird species utilising the site would be of **no more than local ecological importance.**

[9] Red listed bird species are those identified as having suffered major population declines over the last 25 years. Amber listed birds are species identified as having suffered moderate population declines over the last 25 years (Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) Birds of Conservation Concern 5: The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain' in our December 2021 issue. Available at: https://britishbirds.co.uk/sites/default/files/BB_Dec21-BoCC5-IUCN2.pdf

Hazel Dormouse

2.41. No records were returned for dormouse from LRERC. The woodland within the south-western boundary of the site is wet, thus decreasing the likelihood of dormouse presence. The tree line along the southern boundary of the site and peripheral hedgerows are loosely connected to larger broad-leaved woodland pockets to the south of the site. A flowing stream and large areas of ploughed arable land, however, provide potential barriers to dispersal from the site and these suitable habitats. It is therefore considered that dormice are likely to be absent from the site, and as such this species is **not discussed further within this report**.

Hedgehog

2.42. Two records of west European hedgehog *Erinaceus europaeus* were returned within 2 km of the site boundary from LRERC. Hedgehog is a Species of Principle Importance (SoPI listed under Section 41 of the NERC Act 2006, and UKBAP priority species).

2.43. Boundary hedgerows, grassland habitats and the tree line offer potential foraging habitat and shelter for hedgehogs.

2.44. Given the connectivity with suitable offsite habitats, any population of hedgehogs present onsite would be unlikely to be entirely depend on the site. Any individuals utilising the site are therefore considered to be of **negligible ecological importance**.

Invertebrates

2.45. LRERC returned 19 invertebrate records, comprising three beetles, 36 moths and 4 butterflies, within 2km of the site.

2.46. No notable or priority invertebrate species have been recorded incidentally on site during ecology works to date.

2.47. The site provides a variety of habitats suitable for a range of common and priority invertebrate species. However, the onsite habitats are common and widespread in the local area, and any assemblage of invertebrate species are unlikely to be entirely depended on the site. Any assemblage would therefore be considered to be of no more than **local ecological importance**.

Reptiles

2.48. LRERC returned records of five grass snake *Natrix Helvetica* records within 2km of the site, the closest record being 0.83 km south.

2.49. Suitable reptile habitat onsite is provided within the tall grassland habitats (other neutral grassland), hedgerow bases, wet woodland and tree line with associated stream. No incidental evidence of any reptiles was observed during any of the ecology works onsite to date.

2.50. Given the connectivity between the site and other suitable offsite habitats provided by the tree line, hedgerows and associated stream (connecting the site to adjacent allotments to the

west and rough grassland to the east), any assemblage of reptiles utilising the site is unlikely to be entirely dependent upon the site, and therefore would be considered to be of no more than **local ecological importance.**

2.51. Connectivity to suitable habitats to the east and west will be retained as part of the proposed development through the retention of the stream which runs along the site's southern boundary, along with an associated vegetative buffer, which will be a minimum of 10 m in width. It is therefore not considered proportionate or appropriate to undertake detailed reptiles surveys, however, precautionary measures for these species will be required during the construction phase of the development.

Riparian Mammals

2.52. No records of otter *Lutra lutra* or water vole *Arvicola amphibius* were returned from LRERC.

2.53. Along the southern boundary of the site is a narrow flowing stream within a line of trees. The stream itself is 1 m wide and is c. 0.5 m in depth, with the base of the stream being mostly sand. The banks of the stream are mud which are sparsely vegetated, varying in slope from 25 - 45 degrees. The stream is heavily shaded by the line of trees.

2.54. No water vole burrows and or otter holts or any other evidence was recorded on site during the 'Extended' Phase I survey.

2.55. The banks of the stream were considered too shallow for water vole burrow creation (likely to be inundated during periods of heavy rainfall), with habitats heavily managed up to the stream banks on its southern aspect. In addition, due to the lack and variety of vegetation on the banks of the stream it is unlikely that water vole would use it as a valuable foraging resource.

2.56. Several trees with exposed root systems provided potential refuge for otter. The brook is however, unlikely to support fish and/or a large population of amphibians as a food resource for otters. The stream is not immediately connected to waterbodies within the wider environment that may provide a suitable foraging resource and is thus unlikely to be used for commuting.

2.57. With the aforementioned in mind, it is considered that otter and water vole are likely to be absent from the site, and these species are **not discussed further within this report**

Section 3: Impacts, Mitigation and Enhancements

Proposed Development

3.1. A planning application is to be submitted to Hinckley and Bosworth borough council (HBBC) for the development of up to 135 dwellings with associated landscaping, open space, drainage infrastructure and associated works (all matters reserved except access from Brascote Lane). The site proposals are shown in **Appendix 1**.

3.2. The impacts of the proposed development are set out below, with reference to relevant legislation and planning policy where appropriate, which is summarised in **Appendix 2**.

Design Evolution

3.3. The design of the development has been iterative, and in accordance with policy and best practice guidance, follows the 'mitigation hierarchy'. As such, the development has been designed to avoid and retain the most important ecological features to ensure they can be managed in the long-term to enhance their importance for biodiversity. Where this is not possible, new habitats have been proposed to compensate for habitat losses with the aim of maximising the overall ecological value of the habitats proposed on site. A summary of how the design follows the mitigation hierarchy is set out below:

- The development will focus on areas of the least ecological importance where possible, namely modified grassland. Higher value habitats including wet woodland, neutral grassland and boundary hedgerows, treelines and streams will be retained where possible. Impacts to boundary features to facilitate new access roads have been designed to minimise the amount of vegetation clearance required;
- Retained habitats will be incorporated into ecological buffer areas where possible, and will be enhanced where practicable;
- The proposals will incorporate a diverse scheme of locally appropriate habitat creation, including new grassland creation, ecologically designed sustainable drainage features, and shrub, hedgerow and tree planting.

Designated Sites

Non-Statutory Sites

3.4. Two notified LWS and four cLWS are located within 2 km of the site, with the nearest located 0.07 km from the site.

3.5. The Thurlaston Brook, which runs along the southern boundary of the application site, provides a hydrological connection to a number of further LWS including Cadeby, between sewage works and Naneby Hall Farm pLWS (0.53 km southwest), Botany Bat Spinney pLWS (0.63 km southwest) and Manor Farm Meadow LWS (0.85km southwest).

3.6. The proposed development will therefore incorporate precautionary measures of construction, including best practice pollution measures. These can be found in the CIRA C5326 and Environment Agency PPG5 documents. Whilst the PPG documents have been officially withdrawn from implementation, they are still a useful guide to inform working practises in the context of pollution prevention on development sites. Precautionary measures relating to the safe storage of any chemicals, reducing airborne dust, and minimising overnight lighting will also be adopted. These precautionary measures could be controlled via a Construction and Environmental Management Plan (CEMP), which could be produced as a pre-commencement condition of planning.

3.7. There are four pLWS within 0.01 km of the site. Appropriate buffers have been incorporated into the design of the site to three of the pLWS (Newbold Verdon, pavilion green lane hedge; grassland; and Newbold Verdon hedge), and as such provided that precautionary methods of construction are adopted as outlined above, no impacts are anticipated to these pLWS.

3.8. The Newbold Verdon stream hedge is located immediately adjacent to the site boundary, on the southern embankment of the stream. As the proposed development necessitates unavoidable impacts to the pLWS, it was assessed against the LWS selection criteria[10]. The hedgerow contains a suitable number and diversity of species, and is associated with additional habitat features of value so as to satisfy the selection criteria for LWS in Leicestershire.

3.9. To facilitate the access into the proposed development, the proposals will require the removal of two discrete areas of the Newbold Verdon stream hedge pLWS (totalling approximately 0.04 km). The proposals have been designed so as to minimise the area of hedgerow requiring removal. No suitable alternative locations for these access points have been identified for the site.

3.10. To compensate for the required loss of discrete sections of the pLWS hedgerow, it is proposed to incorporate 0.15 km of native species rich hedgerow, of a similar composition to the existing hedgerow. This will be incorporated atop the embankments of the sustainable drainage systems, so as to replicate the association with the ditch/embankment which is a feature of the current hedgerow.

3.11. The remainder of the hedgerow will be incorporated into appropriate buffers from development.

3.12. The design of the proposals has demonstrated compliance with local policy DM6 Enhancement of Biodiversity and Geological Interest through following the sequential approach as set out in the policy wording:

- Avoidance - The proposed access routes have been sited so as to avoid impacts as much as possible, through removing the least amount of vegetation as required, and avoiding mature trees where possible.

- Mitigation – Precautionary construction measures will be implemented for the majority of the pLWS which is to be retained in appropriate buffer zones. The hedgerow will also

[10] https://www.leicestershire.gov.uk/sites/default/files/field/pdf/2016/8/22/Guidelines_LWS_0.pdf

be subject to improved management following construction, with a reduction in severe agricultural encroachment to the southern side of the pLWS; and

- Compensation – 0.15km of new native species-rich hedgerow will be created within the proposed development. To closest replicate the habitat which is to be lost, this hedgerow will be created atop the embankments to the SuDS basins, so as to replicate the hedgerows association with the watercourse embankment. Additional native species rich hedgerow not associated with embankments will also be created within the proposed scheme.

3.13. Provided that the precautionary methods of construction are implemented as detailed above, and the compensatory hedgerow creation is incorporated into the development, there are not anticipated to be any residual impacts resulting from the proposed development to any identified non-statutory sites, in line with local policy DM6.

Habitats and Flora

Design Considerations

3.14. The proposed scheme will include new soft landscaping within the residential streetscape and public open spaces, including the following key enhancements to wildlife:

- Retention of features of the greatest ecological importance, namely wet woodland and mature rural trees, and the boundary hedgerows on the northern and eastern boundary. The watercourse, treeline and hedgerow to the southern boundary will be retained within ecological buffer areas, with the exception of discrete new access areas;

- Well defined buffer areas to the retained wet woodland, mature trees, boundary hedgerows, tree line and watercourse (with the exception of discrete new access areas), with the surrounding habitat to be retained and where possible enhanced through the creation of areas of new areas of grassland, tree planting, and structural scrub/shrub planting;

- An enhanced buffer to the Thurlaston Brook through the retention of the wet woodland and large areas of the neutral grassland along the southern boundary, and the creation of an ecological buffer zone with a mosaic of new grassland creation, tree planting, and structural scrub/shrub planting;

- Sustainable drainage system (SuDS) basins, which should be constructed in accordance with the CIRIA guidelines[11] for SuDS with regards to biodiversity. This would include a diverse range of native planting of known value to wildlife, particularly amphibians, reptiles, and invertebrates;

- Large areas of green public open space will be created, which will be managed for both amenity and biodiversity. The majority of the grassland habitats within the areas of open space will be retained from the existing habitats where possible, with newly

[11]https://www.ciria.org/ItemDetail?iProductCode=C753&Category=BOOK&WebsiteKey=3f18c87a-d62b-4eca-8ef4-9b09309c1c91

created grassland areas to be sown with a species diverse general purpose meadow mixture. In the areas closest to the residential development and associated roadways and footpaths, this will be managed primarily for visual and amenity purposes. In the large area of green public open space to the east of the site, the grassland should be managed with a rotational mowing regime to allow for areas of longer sward and increased species diversity;

- Creation of areas of structural scrub, shrub, and tree planting, to be planted with a diverse mixture of native species, and managed to maximise biodiversity;

- Creation of new hedgerows, to be planted with a diverse mixture of native species, to be managed to maximise biodiversity. This will include areas of hedgerow to be planted on the embankments of the SuDS basins, in order to provide an embankment associated with the hedgerows; and

- Tree planting of predominantly native species will be included throughout the areas of open green space and throughout the residential streetscape. It is assumed that the trees located within the residential streetscape will be more intensively managed for safety and aesthetic reasons. Trees located within the areas of green open space should be managed less intensively, allowing for trees to grow more naturally and reach close to expected size for mature examples of the species planted.

3.15. These enhancements, which are visualised on Plan **16602/P14** will include semi-natural habitats designed for both biodiversity and amenity value.

Impacts, Mitigation and Enhancement

3.16. The modified and other neutral grassland habitat on site is considered to be of no more than local ecological importance. The proposals will result in the loss of this habitat within the development area, although this habitat will be retained where possible within the proposed areas of green open space. This habitat is common and widespread in the local area, and the loss of this habitat would therefore not trigger legislation or planning policy, and as such no specific mitigation is required.

3.17. The development has been designed to retain and protect features of greatest ecological importance where possible, namely wet woodland and mature trees, and the majority of hedgerows and treelines, and the Thurlaston brook.

3.18. The proposals will necessitate unavoidable impacts to the southern boundary hedgerow, treeline and brook through the requirement to create two discrete access roads into the site. This will result in two discrete areas of hedgerow loss, and the loss of some understory vegetation and young trees. The access locations have been designed to avoid mature trees where possible within the southern boundary treeline. The Thurlaston brook will also be culverted at the two locations to facilitate the required access roads. The loss of vegetation required to facilitate the access roads will be compensated for through the creation of new native species-rich hedgerows throughout the proposed development, including planting along the embankment of the SuDS features, to replicate the association of the existing hedgerow with the watercourse embankment. Impacts to the watercourse will be

compensated for through the reduction of encroachment to the watercourse currently by agricultural and pasture areas, as well as the creation of an ecological buffer with a diverse mosaic of habitat creation including wet grassland, tree planting, and structural shrub/scrub planting.

3.19. All other hedgerows onsite will be retained and kept within the public domain. New hedgerow creation will include native planting, and will be kept within the public domain where practicable. Keeping the hedgerows in the public domain will reduce the risk of removal, damage, or poor management from future property owners, and protect the long term viability of the hedgerows.

3.20. The matures trees, within the south-western area of the site, will be entirely retained within the proposals, and subject to an appropriate buffer as defined by a BS:5837:2012 arboricultural survey. The buffer areas will be enhanced through the creation of areas of neutral grassland, and should be defined through the installation of a knee rail or similar.

3.21. With the enhancements outlined above, and as visualised on plan 16602/P14, incorporated into a detailed planting scheme, it is considered that the new habitat creation will compensate for the loss of habitat to facilitate the development. As far as possible, new planting will include the provision of native species, or those with a known importance to wildlife, with particular consideration of the protected and priority species known to be utilising the site, or with potential to do so.

3.22. The proposals will provide new habitats of importance for wildlife, namely the areas of grassland, SuDS, shrub, tree and hedge planting. This will provide suitable breeding, foraging, hibernating and commuting habitats for a wide range of species, including amphibians, badgers, bats, birds, invertebrates and reptiles.

3.23. Without sufficient mitigation, there is a risk of adverse effects to the retained habitats of ecological value, namely the mature trees, hedgerows, tree line and the Newbold Verdon, stream hedge potential LWS, due to the necessary construction works to facilitate the proposed development. These impacts would be mitigated by employing industry best practice measures with regards to root protection areas of the trees and hedges, as well as precautionary construction measures (outlined with regards to the designated sites above), which would be controlled via a CEMP

3.24. In order to maximise the biodiversity value of the newly created habitats onsite, the development should be subject to a Landscape Ecological Management Plan (LEMP) or similar, secured as a condition of planning.

Fauna

Amphibians

3.25. The site does not provide any habitats that are considered to be suitable for breeding GCN, and the species is not considered to be a feature of the site.

3.26. More mobile amphibian species including common toad may be present on or adjacent to the site. Common toad are a SoPI, and as such consideration should be had for their conservation. Precautionary methods of construction as detailed above relating to designated sites, and below with regards to reptiles, will reduce the risk of harm to the species.

3.27. The proposals include the creation of new habitats and enhancement of existing habitat that will provide an increase in onsite feeding, commuting, resting, hibernation and breeding opportunities for amphibians, including ecologically designed SuDS areas, grassland creation, and structural shrub/scrub planting.

3.28. Furthermore, increase sheltering and hibernation opportunities will be provided through the provision of hibernacula and refugia piles. Refugia piles should consist of piles of rubble, logs and brash. Hibernacula should be approximately 2m wide and 1m high, made of inert, clean fill (hardcore, brick rubble, logs and loose topsoil) and capped with topsoil or turf. The hibernacula would have the insides expose at the margins to allow for access (see Figure 3.1). Hibernacula and refugia would provide suitable sheltering and hibernation habitat for common amphibians, as well as other protected and priority species such as reptiles. They would be suitable in both the SuDS areas and areas of woodland. The exact numbers and locations of refugia and hibernacula could be provided in a LEMP.

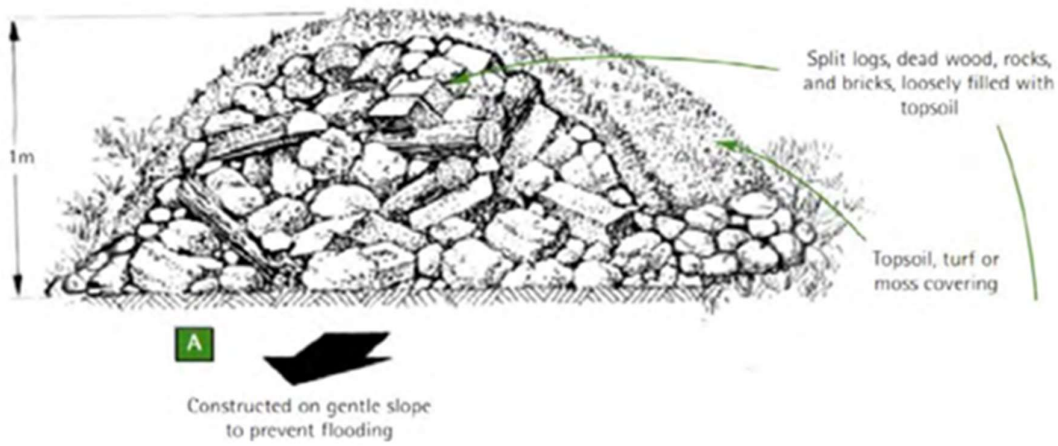


Figure 3.1: Example of a hibernaculum design for amphibians and reptiles.

3.29. Wildlife friendly kerbs should also be provided adjacent to any roadside drains. These kerbs replace a standard HB2 kerb unit, and incorporate a recessed channel at road level that provides a safe passage around the drain hazard for any amphibians that are guided along the kerbside, see Figure 3.2 below.

Figure 3.2: Wildlife Kerb (from wildlifefencing.co.uk)

Badger

3.30. No badger setts were present onsite or in directly adjacent habitats at the time of survey. Badgers can readily dig new setts and should a badger sett be identified before or during construction activities, the legislation protecting badgers could be triggered (see **Appendix 2**). As such, work must be stopped, and the advice of an ecologist sought.

3.31. Precautionary methods should be implemented during construction works to avoid disturbance to foraging badgers, including;

- A badger survey must be implemented prior to the commencement of works to ensure no new setts have been excavated that may be impacted by the works;
- During construction, all earth works and excavations which could potentially trap badgers should be covered at the end of daily operations where practicable, with the inclusion of a ramp to allow escape;
- Work is to be undertaken during the daytime where practicable, when badgers are least active, to minimise disturbance to their foraging activities; and
- Overnight lighting should be kept to a minimum.

3.32. The provision of areas of green open space and shrub and hedgerow planting will retain and enhance foraging and commuting opportunities within the site for badger and strengthen connectivity with offsite habitats.

Bats

Roosting

3.33.

3.34. Current proposals indicate that tree T7 will require removal to facilitate the western access road. In order to fully understand the impacts of the development on roosting bats associated with the removal of T7, bat emergence and/or aerial climbing inspections will be undertaken in the optimal season.

3.35. Full details of survey methodology, metadata and results, along with an assessment of the required mitigation and enhancement measures will be provided in a subsequent addendum report, to be submitted in determination.

3.36. No further trees identified during the preliminary bat roost assessment with potential for roosting bats will be removed, and will be retained within suitable ecological buffer zones. The areas of most value to roosting bats are to be retained in appropriate buffers. It is therefore not considered appropriate or proportionate to undertake detailed surveys with respects to roosting bats.

3.37. Precautionary construction methods, to be detailed within a CEMP, will ensure that there are no impacts to retained trees with potential to support roosting bats during the construction phase of the development.

3.38. A sensitive lighting design should be prepared at the detailed planning stage to ensure that retained features of importance to roosting bats are not adversely impacted through increased lighting in the operational phase of the development.

3.39. Bats have been considered during the development design to ensure that features likely to be of the highest value (namely woodland, mature trees, and boundary hedgerows and treelines) are retained where possible, along with potential flightlines between potential roosting opportunities.

3.40. To provide enhancements for roosting bats, it is recommended that, where possible, bat boxes should be installed on retained trees within the boundary habitats of the site, and incorporated into the structure of the new buildings. The precise location and number of bat boxes to be installed could be specified and monitored through the provision of a LEMP.

Foraging and commuting

3.41. In order to fully understand the impacts of the development on foraging and commuting bats, bat activity surveys (including nighttime bat walkovers and static detector deployments are currently being undertaken on the site.

3.42. Full details of survey methodology, metadata and results, along with an assessment of the required mitigation and enhancement measures will be provided in a subsequent addendum report, to be submitted in determination.

Birds

3.43. All birds, their nests and eggs are protected by law under the Wildlife and Countryside Act 1981 (as amended), and it is thus 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.

3.44. To avoid triggering the legislation protecting nesting birds, clearance of suitable habitat 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). 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 fledge and the nest is no longer active.

3.45. The habitats of the most ecological value for the majority of nesting and foraging birds, namely the woodland, mature trees, and hedgerows and treeline, are to be retained in the proposals, with the exception of the discrete area of hedgerow and tree-line required for access. As described in the habitats subsection above, retained features will be subject to appropriate protection during the construction phase.

3.46. New tree planting hedgerow creation and, scrub and shrub planting will compensate for any loss in potential nesting habitat required to facilitate the development, and result in an increase in potential nesting opportunities on site. The tree and shrub planting, grassland and SuDS creation will also provide an increase in habitat for invertebrate species, which would in turn provide an increased foraging resource for some bird species.

3.47. Further enhancements for nesting birds are possible through the provision of nesting bird boxes, which would ideally be integrated into the design of the buildings or placed on retained trees, targeting species of conservation concern likely to be present. The exact placement, clustering and density of nest boxes, and the specifics and ongoing management of the proposed habitat planting mixture could be outlined in a LEMP.

Hedgehog

3.48. The site provides some suitable areas for hedgehogs, with connectivity provided around the site by the boundary hedgerows.

3.49. The discrete areas of hedgerow requiring removal should be felled outside of the nesting bird season (outside of March-August inclusive) using hand tools, and any piles of vegetation or debris onsite should be dismantled by hand and removed, in order not to injure any hedgehog that may be resting/hibernating. Should any hedgehogs be discovered during works, they should be carefully moved with gloved hands, to suitable and safe habitat away from any works. These measures to safeguard any hedgehogs present onsite during the construction period could be detailed fully in a CEMP.

3.50. The provision of new hedgerows, areas of grassland and scrub and shrub planting will provide some additional habitat for hedgehogs. Furthermore, it is recommended that the

addition of garden fencing with gaps is incorporated into the residential gardens to allow movement of hedgehog throughout the site via 'hedgehog highways[12]'.

Invertebrates

3.51. Opportunities for invertebrate species will be provided through the provision of tree planting, hedgerow planting, scrub and shrub planting, and the creation of new areas of grassland and SuDS. Planting mixtures should include nectar providing species where possible which will provide increased opportunities for invertebrates.

3.52. Further enhancements will be possible through the provision of refugia, as described in the amphibian subsection above, and through the installation of prefabricated insect hibernacula boxes in suitable locations within the site. The exact location of hibernacula and specifics and ongoing management of the proposed habitat planting mixtures will be controlled by a LEMP.

Reptiles

3.53. The site contains suitable habitat for common reptile species, and provides connectivity with further suitable offsite habitats. Therefore, to prevent any reptiles from being killed or injured, and therefore breaking the legislation protecting them, relevant construction work should be carried out under precautionary working methods, under the supervision of an Ecological Clerk of Works (ECoW) where appropriate.

3.54. The precautionary working methods, which will be detailed fully within a CEMP, are outlined below:

- Prior to the commencement of works, the contractors undertaking any vegetation clearance works will be subject to a 'Toolbox Talk' by an ECoW. This will ensure that the contractors are familiar with the legislation relating the common reptile species, the safe working methods, and that they are able to recognise these species and understand the correct protocol if reptiles are discovered during works;

- Areas of grassland should be cut, working toward habitat edges north to south, with a mower to a height of no less than 50mm to avoid the killing of reptiles and other animals. Arisings should then be left in-situ for 24 hours before being removed from site to allow any animals to move before vegetation is collected up. This should involve raking up using hand tools, rather than machinery where possible, and then removing vegetation from the site;

- After the vegetation is cut, the ECoW should check the appropriate works area to ensure that no reptiles or other common amphibians are present in the areas affected by construction activities. The short grass will be checked for any potential reptiles and common amphibian refuges, such as log piles, and the ECoW will carry out a fingertip search prior to any refuge being dismantled by hand by the contractor;

[12] https://www.hedgehogstreet.org/help-hedgehogs/link-your-garden/

- Any piles of rubble, logs, or brash should be dismantled by hand and removed from site or placed into suitable areas of habitat away from areas of development;

- When common reptile species are found, these can be moved by hand to suitable terrestrial habitat nearby and;

- Additional precautions during the construction phase, involving storing all materials which could provide cover for reptiles such as rubble or bricks on raised pallets, and covering any excavations overnight or providing escape ramps, will further reduce the risk of any breach of legislation.

3.55. The proposals include the creation of new habitats that will provide an increase in onsite feeding, commuting, resting, basking, hibernating and breeding opportunities for reptiles, including the new areas of grassland, scrub and shrub planting, and SuDS area. Furthermore, increased sheltering and hibernation opportunities could be provided by installing hibernacula and refugia, as described in the amphibian subsection above. The exact location of hibernacula and specifics of ongoing management of the proposed habitat planting mixtures will be controlled via a LEMP.

Section 4: Conclusion

4.1. No ecological features that would affect the principle of development at the site have been identified at this stage.

4.2. The development has been designed to retain and protect features of greatest ecological importance where possible, namely the namely woodland and mature trees, hedgerows and treelines, and the Thurlaston brook. There will be a loss of areas of grassland on site (of no more than local ecological importance), as well as a discrete loss of hedgerow and treeline habitat, and discrete culverting of the Thurlaston brook to facilitate new access roads into the proposed development.

4.3. It is considered that with the implementation of the mitigation and enhancement strategy described in this assessment (outlined in Section 3), the proposed development would be in conformity with relevant policy and legislation, as set out in Appendix 2, including local policies DM6.

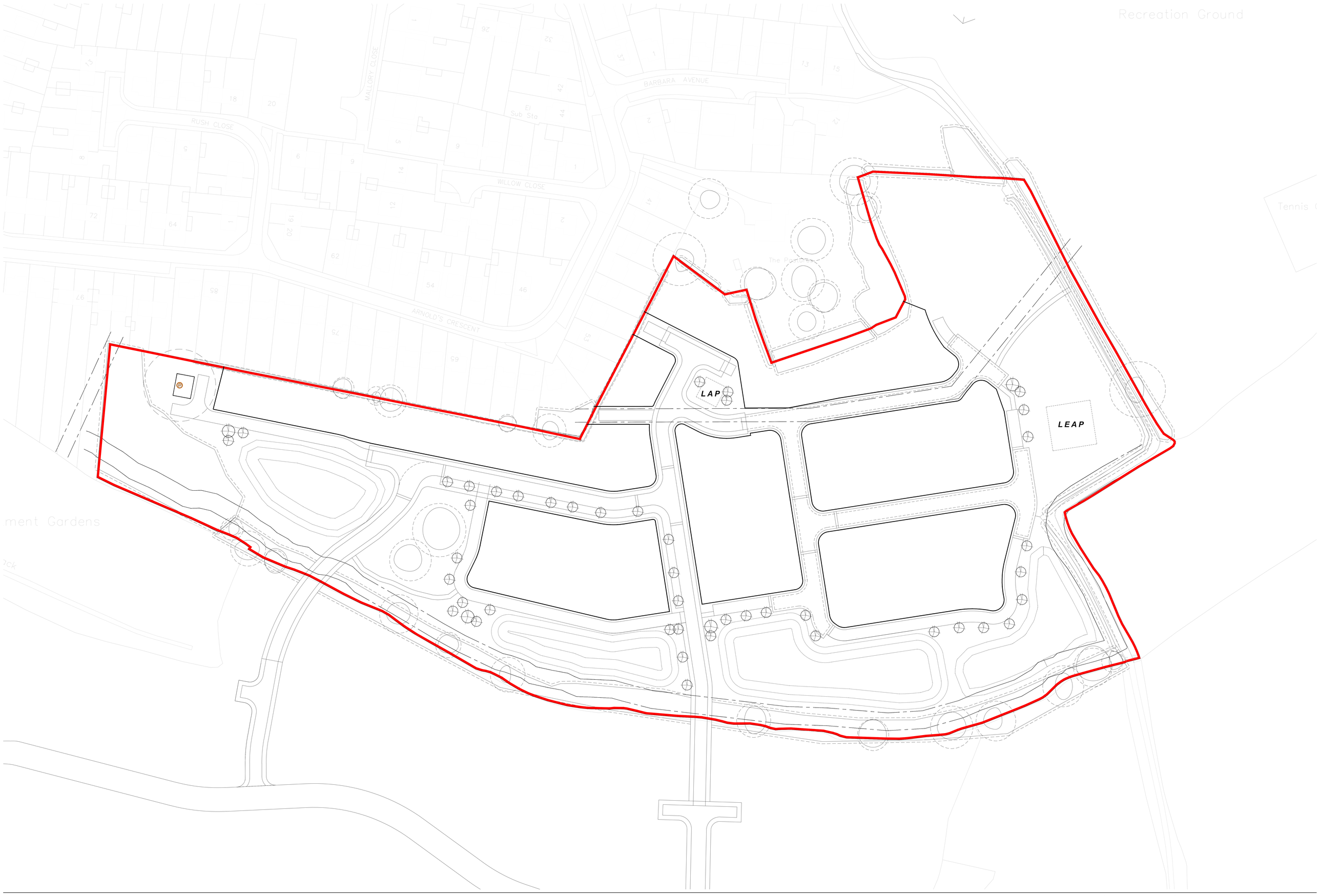
4.4. This strategy could be controlled and monitored through appropriately worded planning conditions devised to secure the production and implementation of a CEMP to avoid any adverse impacts resulting from the construction phase of the development, and a LEMP which would:

- Maximise the biodiversity value of newly created habitats and their ability to support protected and priority species described in this assessment; and
- Detail the location, number, and design of nesting bird boxes, bat boxes, and amphibian/reptile/invertebrate hibernacula and refugia to be incorporated into the proposed development.

4.5. The site has potential to support commuting/foraging bats, and as such further surveys are underway in the optimal seasons. These species have been considered during the development design to ensure that features likely to be of the highest value are retained where possible and enhancements are provided where practicable, as described in Section 3. The methodology, metadata and results, as well as details of any necessary mitigation and opportunities for enhancements with regards to these species will be provided in an addendum report.

4.6. A biodiversity net gain calculation using the Statutory Metric will be provided in a separate report.

Appendix 1: Site Layout



Status PLANNING

Client: Richborough

Project title: Land South of Arnold's Crescent Newbold Verdon

Drawing title: Development Framework Plan

Scale:	1:500@A0
Date:	June 2024
Drawn by:	JMP
Checked by:	LH
Drawing no.:	902832.36.03
Revision:	E

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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 2019 (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.

A2.5. Environment Act 2021: Upcoming Town and Country Planning Act

A2.6. 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 sets the Framework for future legislation to be changed. This will be in the form of the Town and Country Planning Act (TaCPA), specifically Schedule 14 of the TaCPA, which will make Biodiversity Net Gain a condition of planning (not a planning condition). The target 'gain' is currently set at 10% but the Secretary of State has the ability to change this.

A2.7. The timescales for changes to the wording of the TaCPA are that it will be legally mandated and enforceable from February 2024.

National Planning Policy

National Planning Policy Framework (NPPF), December 2023

A2.8. The updated National Planning Policy Framework (NPPF) was published in December 2023 and sets out the Government's planning policies for England and how these should be applied. It replaces the first National Planning Policy Framework published in March 2012.

A2.9. Paragraph 11 states that:

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

A2.10. Section 11 of the NPPF, paragraph 120, sub-section b states that planning policies and decisions should:

b) "encourage multiple benefits from both urban and rural land, including through mixed use schemes and taking opportunities to achieve net environmental gains such as developments that would enable new habitat creation or improve public access to the countryside;

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

A2.11. Section 15 of the NPPF (paragraphs 174 to 188) considers the conservation and enhancement of the natural environment.

A2.12. 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"

A2.13. 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.

A2.14. 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 biodiversity[13];*
wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation[14]; 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."*

A2.15. 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 reasons[15] 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."*

A2.16. As stated in paragraph 187 the following should be given the same protection as habitats sites[16]:

a) *"potential Special Protection Areas and possible Special Areas of Conservation;*

[13] Circular 06/2005 provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.
[14] 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.
[15] 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.
[16] 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.

b) listed or proposed Ramsar sites[17]; and

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."

A2.17. Paragraph 182 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

A2.18. The Leicestershire and Rutland Local Biodiversity Action Plan has 19 action plans for habitats and 16 for species. The specific habitats and species targets are:

- **Habitats**: Broad-leaved woodland, wet woodland, lowland wood-pasture and parkland, hedgerows, mature trees, eutrophic standing water: field ponds, lakes, canals and reservoirs, mesotrophic lakes, floodplain wetland, reedbeds, fast-flowing streams, *sphagnum* ponds, springs and flushes, neutral grassland, heath grassland, calcarious grassland, roadside verges, field margins, rocks and built structures and urban habitats. **Species**: barn owl, bats, black hairstreak butterfly, black poplar, dingy and grizzled skipper butterflies, dormouse, nightingale, otter, purple small-reed, redstart, sand martin, violet helleborine, water vole, white-clawed crayfish, wood vetch, swifts, swallows and house martins.

Hinckley and Bosworth Borough Council, Site Allocations and Development Management Policies DPD (Local plan 2006 – 2026, adopted 2016)

DM6 Enhancement of Biodiversity and Geological Interest

Development proposals must demonstrate how they conserve and enhance features of nature conservation and geological value including proposals for their long term future management. Major developments in particular must include measures to deliver biodiversity gains through opportunities to restore, enhance and create valuable habitats, ecological networks and ecosystem services.

Proposals where the primary objective is to conserve or enhance biodiversity or geological interest will be permitted where they comply with other relevant policies in the plan.

On site features should be retained, buffered and managed favourably to maintain their ecological value, connectivity and functionality in the long-term. The removal or damage of such features shall only be acceptable where it can be demonstrated the proposal will result in no net loss of biodiversity and where the integrity of local ecological networks can be secured.

If the harm cannot be prevented, adequately mitigated against or appropriate compensation measures provided, planning permission will be refused. In addition to the above, where specific identified sites are to be affected the following will be taken into account:

[17] 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.

Internationally and Nationally Designated Sites

International and Nationally Designated Sites will be safeguarded. Development which is likely to have any adverse impact on the notified features of a nationally designated site will not normally be permitted. In exceptional circumstances, a proposal may be found acceptable where it can be demonstrated that:

A. A suitable alternative site with a lesser impact than that proposed
B. The on-site benefits of the proposal clearly outweigh the impacts on the notified features of the site and where applicable, the overall SSSI or habitat network; and
C. All appropriate mitigation measures have been addressed through the development management process; and
D. Development likely to result in a significant effect on internationally designated sites will be subject to assessment under the Habitats Regulations and will not be permitted unless adverse effects can be fully avoided, mitigated and/or compensated.

Irreplaceable Habitats

Proposals which are likely to result in the loss or deterioration of an irreplaceable habitat would only be acceptable where:

E. The need and benefits of the development in that location clearly
F. It has been adequately demonstrated that the irreplaceable habitat
G. Appropriate compensation measures are provided on site wherever possible and off site where this not is feasible.

Locally Important Sites

Development proposals affecting locally important sites should always seek to contribute to their favourable management in the long term.
Where a proposal is likely to result in harm to locally important sites (including habitats or species of principal importance for biodiversity), developers will be required to accord with the following sequential approach: proposed; measures can be taken on site;

H. Firstly, seek an alternative site with a lesser impact than that
I. Secondly, and if the first is not possible, demonstrate mitigation
J. Thirdly, and as a last resort, seek appropriate compensation measures, on site wherever possible and off site where this is not feasible.

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 contacted/consulted:

- Leicestershire and Rutland Environmental Records Centre [18] (LRERC) for protected species records and non-statutory site information (data received 11th March 2024) [19];
- The Multi-Agency Geographic Information for the Countryside website [7] was accessed for information on the location of statutory designated nature conservation sites within a 10km radius;
- Hinckley and Bosworth Borough Council website [20] was consulted for details of relevant local planning policies and supplementary planning guidance; and
- The Leicestershire and Rutland Biodiversity Action Plan (BAP)21 was consulted for priority habitats and species subject to conservation action, to assist with the evaluation of ecological features and to inform site enhancement strategies.
- 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.

'Extended' Phase 1 Habitat Survey and UKHabs

A3.4. An 'extended' Phase I habitat survey was undertaken on the 26th February 2023 by Emma Jagger a suitably experienced senior ecologist and member of CIEEM. The methods used during the walkover survey broadly followed methods used in an 'extended' Phase 1 habitat survey[22] and entailed recording the main plant species and classifying and mapping habitat types with

[18] https://www.leicestershire.gov.uk/environment-and-planning/planning/leicestershire-and-rutland-environmental-records-centre-lrerc

[19] https://magic.defra.gov.uk/

[20] https://www.hinckley-bosworth.gov.uk/planning_policy

[21] BAP space for wildlife part 1 (lrwt.org.uk)

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

reference to the Habitat Definitions provided by the UK Habitat Classification Working Group[23].

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.

A3.6. All habitats were assessed utilising the relevant condition criteria for the relevant habitat type under the Statutory Metric, which included confirming 'pass' / 'fail' criteria taken from the UK Habitat/Phase 1 methodology where necessary.

A3.7. Weather conditions during this survey were sunny and breezy, with a temperature of 10^{C} on arrival.

A3.8. The site was fully accessible.

Bats: Ground Level Tree Assessment

A3.9. A Ground Level Tree Assessment (GLTA) of a tree is a detailed inspection of its exterior to look for features that bats could use for roosting; known as Potential Roosting Features (PRFs).

A3.10. The aim of the GLTA is to determine the actual or potential presence of bats and the need for further surveys and/or mitigation. An external ground level preliminary roost assessment of all onsite trees was undertaken on the 29th February 2023 by Emma Jagger, an experienced Natural England Bat Licenced ((WML-A34 - Level 2 (Class Licence), Registration number 2016-25723- CLS-CLS) ecologist and full member of CIEEM.

A3.11. The survey was a daytime inspection and the conditions were considered optimal. All trees were inspected from the ground using binoculars and high-powered torch for accessible features.

A3.12. The trees were classified following best practice guidance as having negligible, PRF-I or PRF-M potential for roosting bats, based on the evidence discovered during the survey or the observed features. In relation to trees, signs of a bat roost may include bat droppings, urine splashes or staining. Potential roost features that allow the bat access into the tree include woodpecker holes, frost cracks, deadwood, knot holes, and limb wounds.

A3.13. The potential of the trees to support roosting bats was assessed using the criteria shown in **Table A3.1** below.

Table A3.1: Roost Assessment Criteria (adapted from the BCT Good Practice Guidelines, 2023[2])

Suitability	Description of roosting habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.
PRF-I	PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitat.
PRF-M	PRF is suitable for multiple bats and may therefore be used by a maternity colony.

[23] Butcher, B., Carey, P., Edmons, R., Norton, L. and Treweek, J. (2020). UK Habitat Classification – Habitat Definitions V1.1

A3.14. The results of the PBRA are provided in table **A3.1** below, and are shown on **16602/P1**.

Table A3.1: PBRA Results

Tree	Description	Potential
T10	Large mature oak with several small fissures. ///coconut.moves.allies	PRF-I
T9	Dead oak, with minor lifted bark. May deteriorate more over time ///noun.nurtures.uplifting	PRF-I
T8	Large semi-mature oak. Crack at 6 m facing sw. knothole at 5 m facing southwest. Climb to inspect features ///engages.brightens.foot	PRF-M
T4	Ivy covered alder next to stream. Ivy may conceal features ///bulky.locker.elephant – within wet woodland habitat	PRF-I
Alder within tree group G1a	Ivy covered alder next to stream. Ivy may conceal features ///wept.medium.beanbag - within wet woodland habitat	PRF-I
Sycamore within tree group G1b	Sycamore with knothole at 5 m facing north///rational.equivocal.emerge - within wet woodland habitat	PRF-I
Alder within tree group G1c	Alder with tear out ///laptops.croutons.applies - within wet woodland habitat	PRF -I
Willow within tree group G1d	Twin stemmed willow with dense ivy obscuring potential features. //pouch.deodorant.relaxed	PRF-I
T19	Crack Willow with branch drop creating a potential cavity ///potions.launcher.swoop – within tree line, north-eastern corner	PRF-I
T16	Branch tear in semi-mature oak. Climb to inspect feature at 8 m facing north ///fabric.neon.view - within tree line, north-eastern corner	PRF-I
T14	Dead tree with possible feature to north-east aspect, and knot hole in limb to south. //trump.twists.straw	PRF-M
T7	Mature oak on river bank with some fallen limbs leaving potential crevice features. Some ivy cover potentially obscuring further features. //duke.providing.kilt	PRF-I
Trees within G2	3x Alders located within tree group G2. Each with some level of ivy cover potentially obscuring features, although quite cluttered. Small branch wounds present on southern extent of all three trees.	PRF-I

Evaluation

A3.15. The evaluation of habitats and species is defined in accordance with published guidance[24]. The scale of importance of each ecological feature is assigned within a defined geographical context, namely international and European, national, regional, county, and local. Below these are features considered to be of negligible importance.

A3.16. 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.

A3.17. 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

A3.18. 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

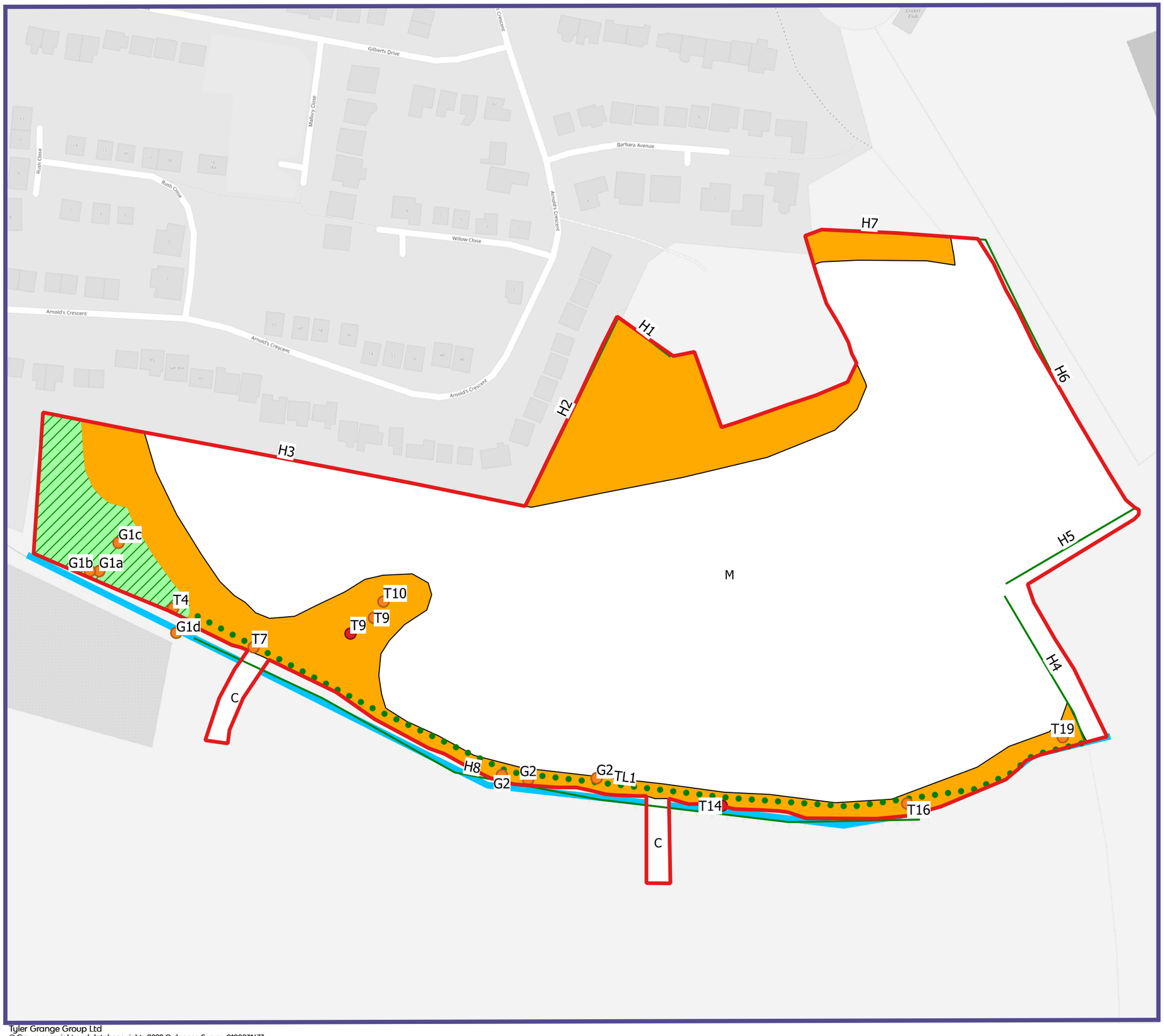
A3.19. Application of the mitigation hierarchy is fundamental to the ecological impact assessment process. This requires consideration of the following measures, in order of priority, for all potential impacts, to determine the most appropriate mitigation, compensation and enhancement strategy for the project. This is taken into account within **Section 3** of this report and set out below:

- Avoidance – measures to avoid harm to ecological features (set out in 'Design Evolution', Section 3);
- 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.

[24] 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.

Plans:

Plan 1: 16602/P13a Habitat Features and PBRA Plan
Plan 2: 16602/P14a Post-Development Habitats Plan
Plan 3: 16602/P11 Tree Retention and Removal Plan



16602 Site Boundary

C Cropland

M Modified Grassland (g4)

Other Neutral Grassland (g3c)

Wet Woodland

Species-rich Native Hedge Associated with Bank or Ditch

Native Hedgerow

Ornamental Hedgerow

Ecologically Valuable Line of Trees Associated with Bank or Ditch

Watercourse

Tree with Bat Potential: PRF-I

Tree with Bat Potential: PRF-M

0 100 m

Project	Land situated to the east of Brascote Lane and south of Arnold's Crescent, Newbold Verdon
Drawing Title	Habitat Features and PBRA Plan
Scale	As Shown (Approximate)
Drawing No.	16602/P13a
Date	June 2024
Checked	CA

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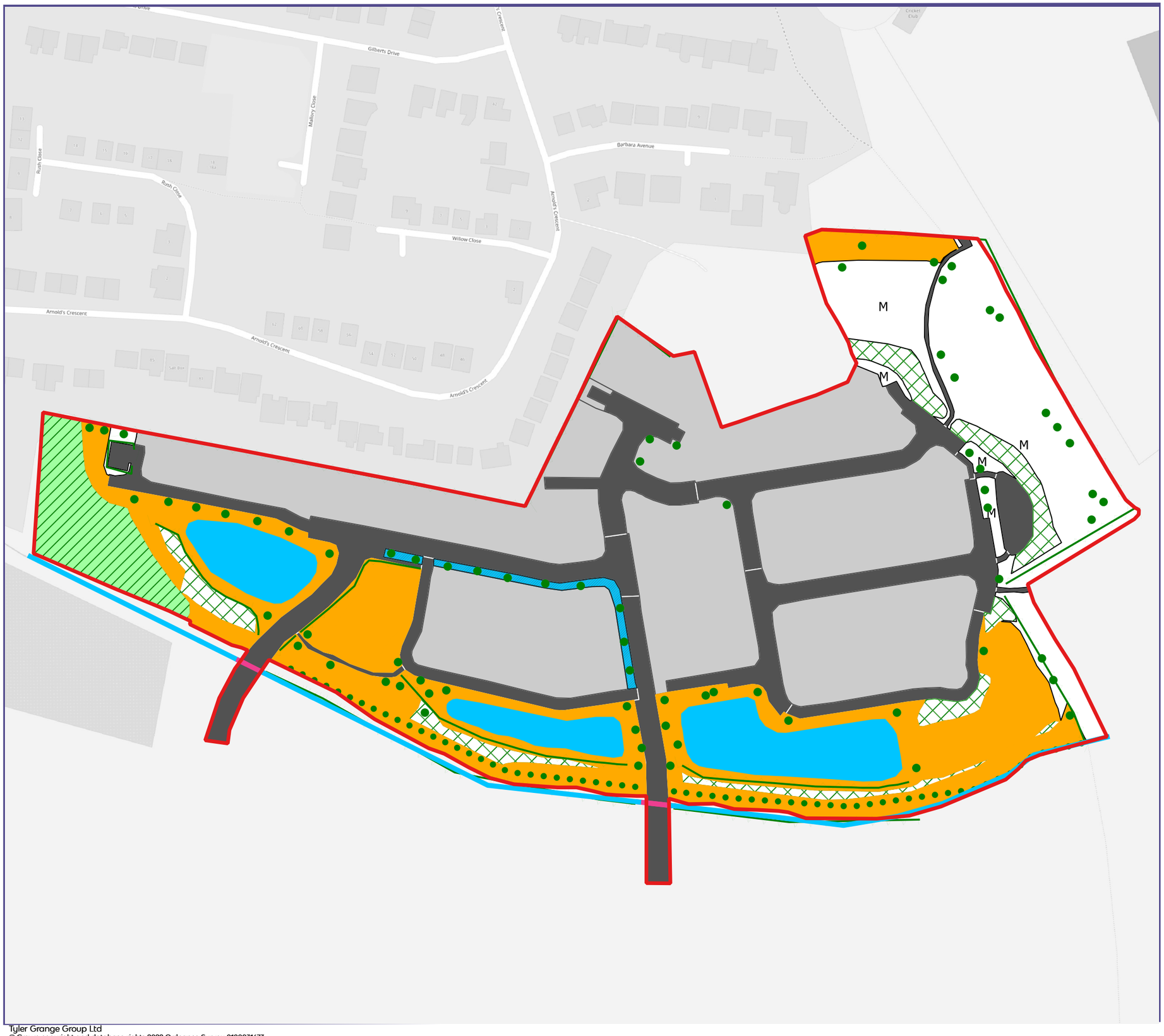

- 16602 Site Boundary
- Bioswale
- Developed Land; Sealed Surface
- Other Neutral Grassland (g3c)
- M — Modified Grassland (g4)
- Residential Parcels
- Mosaic of Structural Scrub and Tree Planting
- SuDS
- Wet Woodland (Retained)
- Species-rich Native Hedge Associated with Bank or Ditch
- Native Hedgerow
- Ornamental Hedgerow
- Ecologically Valuable Line of Trees Associated with Bank or Ditch
- Individual Trees
- Watercourse
- Culvert

0 — 100 m

Project	Land situated to the east of Brascote Lane and south of Arnold's Crescent, Newbold Verdon
Drawing Title	Post-development Habitat Plan
Scale	As Shown (Approximate)
Drawing No.	16602/P14a
Date	July 2024
Checked	CA

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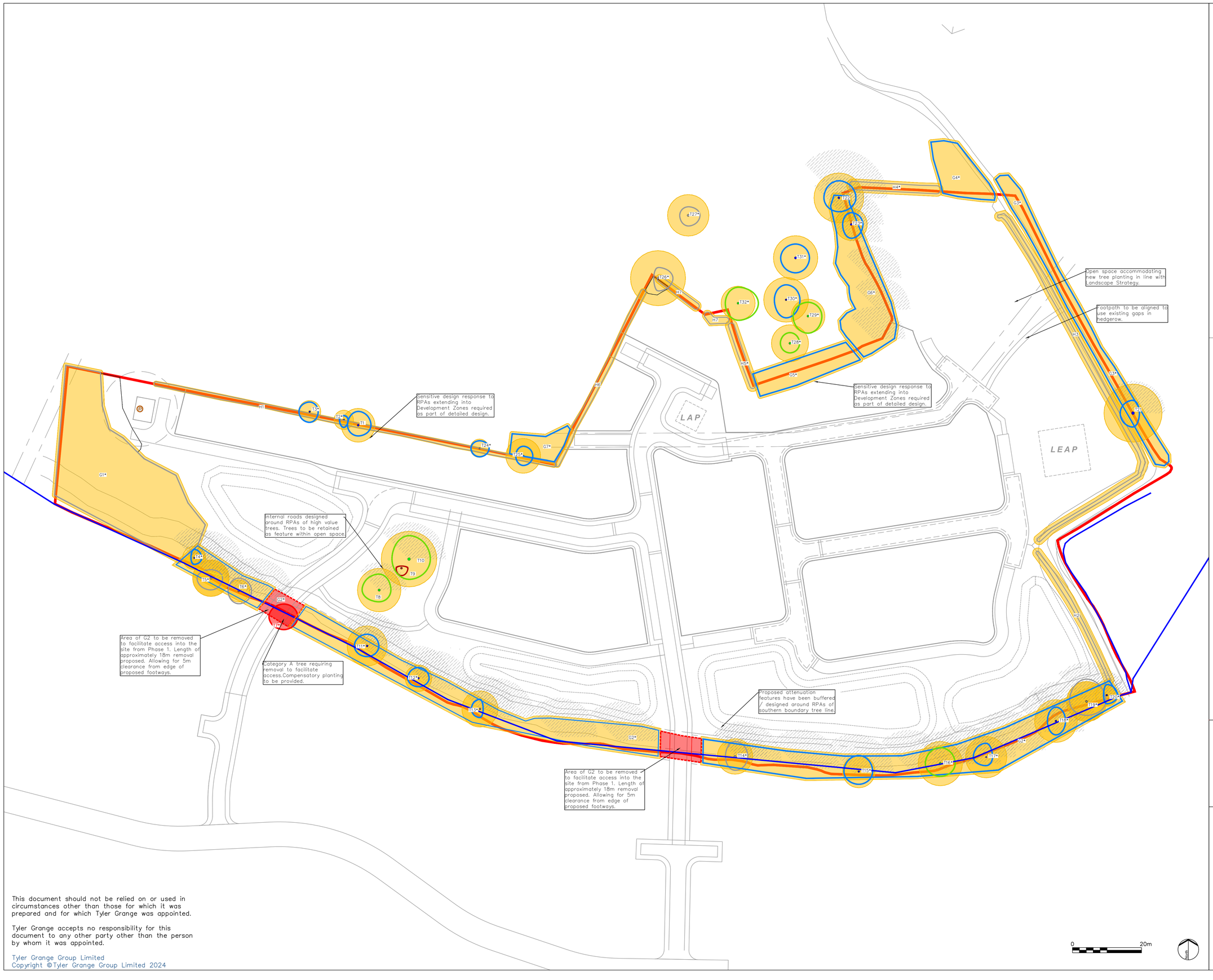

- Category A – Trees of High Quality and Value
- Category B – Trees of Moderate Quality and Value
- Category C – Trees of Low Quality and Value
- Category U – Trees in Poor Condition
- Root Protection Areas
- Tree Shading Constraints
- Proposed Tree Removal

*Denotes trees and groups not identified on topographical survey. Locations approximated using measurements taken on site.

Rev	Description	Date
a	Update to layout	16/07/2024

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Project title

Land situated to the east of Brascote Lane and south of Arnold's Crescent, Newbold Verdon

Drawing title

Tree Retention and Removal Plan

Scale	1:500 @ A1	Drawn	JP
Date	16.07.2024	Checked	NC

Drawing number: 16602_P011

Revision: a

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