Landmark Planning Limited

Moor Lane, Loughborough

ECOLOGICAL APPRAISAL

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1.0 INTRODUCTION

FPCR Environment and Design Ltd. was commissioned by Landmark Planning Ltd. to undertake an Extended Phase 1 Habitat survey of a site located in east of Loughborough, Leicestershire, to support a residential planning application for the site.

The proposed development is for the construction of approximately 30 new residential units with associated access roads, car parking, soft landscaping and green infrastructure.

1.1 The proposed development site is located on the eastern edge of the town of Loughborough, directly adjacent the Grand Union Canal/Leicestershire Navigation Canal, and north of Moor Lane (approximate central grid reference: SK 547 194). To the immediate west is a large brick building (former Herbert Morris buildings) on the opposite canal bank, outside the site boundary, beyond which the land use is comprised of residential and commercial development associated with the town of Loughborough. Land to the north, south and east is predominantly agricultural pastureland bound by hedgerows and drainage ditches. Approximately 175m to the north is an area of public greenspace which appears to comprise coarse grassland, scrub and woodland, as indicated by aerial imagery, and which is linked to the site via a network of footpaths adjacent the canal.

1.2

1.3

Habitats on site predominantly comprised short ephemeral perennial vegetation and ruderal species indicative of habitats subject to recent disturbance. Additional habitat features of note included a small area of broadleaf woodland present in the northwest of the site, patches of dense scrub, introduced shrub, tall ruderal vegetation and species poor-semi improved and marshy grassland present at the northern and eastern peripheries of the site. Hermitage Brook and the Gran Union Canal comprised the eastern/northern and western boundaries, respectively.

1.4

1.5 This report presents the findings of survey work undertaken to date in order to provide an ecological overview of the site, and where required, provide recommendations for further survey work and details of mitigation in relation to protected species and habitats.

2.0 METHODOLOGY

Desk Study

In order to compile existing baseline information for the study area, relevant ecological information was requested from the Leicestershire and Rutland Environment Records Centre (LRERC).

In addition, the following resources were interrogated for additional information and context:

- Multi Agency Geographic Information for the Countryside (MAGIC) website[1]
- Colour 1:25,000 OS base maps[2]
- Aerial photographs from Google Earth[3]
- Charnwood Borough Council Planning Portal[4]

2.1

2.2

The geographical extent of the search area for biodiversity information was related to the significance of sites and species and potential zones of influence which might arise from development within the site. The consultation exercise was completed using the following scales, considered to be appropriate for the proposed development:

2.3

- 15km around the site boundary for sites of International Importance (e.g. Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites).
- 2km around the site boundary for sites of National or Regional Importance (e.g. Sites of Special Scientific Interest (SSSI), National or Local Nature Reserves (NNR/LNR)).
- 1km around the site for non-statutory designated sites of County Importance (e.g. Local Wildlife Sites (LWS)) and protected or otherwise notable species records (including species of Principal Importance under S41 of the Natural Environment and Rural Communities (NERC) Act (2006)), with data from the last 20 years used.

Field Survey

Phase 1 Habitat Survey

2.4

A Phase 1 Habitat survey was completed on the 13/11/20 using the standard Extended Phase 1 Habitat Survey Methodology[5], as recommended by Natural England. This comprised a walkover of the site, mapping and broadly describing the principal habitat types and identifying the dominant plant species present within each habitat type and any invasive weeds (where present).

2.5

Fauna

During the Phase 1 Habitat Survey of the site, observations, signs of or suitable habitat for any species protected under Part I of the Wildlife and Countryside Act 1981 (*as amended*), the Conservation of Habitats & Species Regulations 2017 (*as amended*) and the Protection of Badgers Act 1992 were recorded. Consideration was also given to the existence and use of the site by other notable fauna such as Schedule 1 bird species, breeding birds, Species of Principal Importance under Section 41 of the NERC Act (2006), and Local Biodiversity Action Plan (LBAP) or Red Data Book (RDB) species.

[1] [Online]. http://www.magic.defra.gov.uk
[2] [Online]. www.ordnancesurvey.co.uk
[3] [Online]. www.maps.google.co.uk
[4] [Online] https://portal.charnwood.gov.uk/Northgate/PlanningExplorerAA/ApplicationSearch.aspx
[5] JNCC. 2010. *Handbook for Phase 1 habitat survey – a technique for environmental audit*. Peterborough.

Badgers *Meles meles*

The standard methodology as recommended by Harris, Creswell and Jefferies[6] was followed to complete a thorough search for evidence which would indicate the presence of badgers both on the site and locally (where accessible). Evidence of badger occupation and activity sought included:

- Setts: including earth mounds, evidence of bedding and runways between setts;
- Latrines: often located close to setts, at territory boundaries or adjacent to favoured feeding areas;

2.6

- Prints and paths or trackways;
- Hairs caught on rough wood or fencing;
- Other evidence: including snuffle holes, feeding and playing areas and scratching posts.

Bats – Roosting

Ground Level Tree Assessment

Trees were assessed on the 13th of November 2020 from ground level by an experienced ecologist for their potential to support roosting bats. Potential Roosting Features (PRFs) for bats such as the following were sought (based on p16, British Standard BS 8596:2015)[7]:

2.7

- Natural holes (e.g. knot holes) arising from naturally shed branches or branches previously pruned back to a branch collar;
- Man-made holes (e.g. cavities that have developed from flush cuts or cavities created by branches tearing out from parent stems;
- Woodpecker holes;
- Cracks/splits in stems or branches (horizontal and vertical);
- Partially detached, loose or platy bark;
- Cankers (caused by localised bark death) in which cavities have developed;
- Other hollows or cavities, including butt rots;
- Compression of forks with occluded bark, forming potential cavities;
- Crossing stems or branches with suitable roosting space between;
- Ivy stems with diameters $\geq$ 50mm with suitable roosting space behind (or where roosting space can be seen where a mat of thinner stems has left a gap between the mat and the trunk); and
- Bat or bird boxes;

[6] Harris, S., Cresswell, P. & Jefferies, D. 1989. *Surveying for badgers*. Occasional Publication of the Mammal Society No. 9. Mammal Society: Bristol.
[7] British Standard BS 8596:2015. *Surveying for Bats in Trees and Woodland* – Guide, October 2015.

Table 1: Bat survey protocol for trees

Classification of Tree	Description of Category and Associated Features (based on PRFs listed above)	Likely Further Survey work
Confirmed Roost	Evidence of roosting bats in the form of live / dead bats, droppings, urine staining, mammalian fur oil staining, etc.	A Natural England derogation licence application will be required if the tree or roost site is affected by the development or proposed arboricultural works. This will require an aerial assessment by roped access bat workers (where possible, health and safety constraints allowing) to inform the licence. Works to a tree undertaken under supervision in accordance with the approved good practice method statement provided within the licence. **However,** where confirmed roost site(s) are not affected by works, work under a precautionary good practice method statement may be possible.
High Potential	A tree with one or more Potential Roosting Features that are obviously suitable for larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter protection, conditions (height above ground level, light levels, etc.) and surrounding habitat. Examples include (but are not limited to); woodpecker holes, larger cavities, hollow trunks, hazard beams, etc.	Where the tree(s) will likely be affected by development a combination of aerial assessment by roped access bat workers (if appropriate) and / or nocturnal survey during appropriate period (May to August). Following additional assessments, tree may be upgraded or downgraded based on findings. If roost sites are confirmed and the tree or roost is to be affected by proposals a licence from Natural England will be required. After completion of survey work (and the presence of a bat roost is discounted), a precautionary working method statement may be appropriate.
Moderate Potential	A tree with Potential Roosting Features which could support one or more potential roost sites due to their size, shelter protection, conditions (height above ground level, light levels, etc) and surrounding habitat but unlikely to support a roost of high conservation status (i.e. larger roost, irrespective of wider conservation status). Examples include (but are not limited to); woodpecker holes, rot cavities, branch socket cavities, etc.	Where the tree(s) will likely be affected by development a combination of aerial assessment by roped access bat workers **and** / **or** nocturnal survey during appropriate period (May to August). Following additional assessments, a tree may be upgraded or downgraded based on findings. After completion of survey work (and the presence of a bat roost is discounted), a precautionary working method statement may still be appropriate. If a roost site/s is confirmed a licence from Natural England will be required.
Low Potential	A tree of sufficient size and age to contain Potential Roosting Features but with none seen from ground or features seen only very limited potential. Examples include (but are not limited to); loose/lifted bark, shallow splits exposed to elements or upward facing holes.	No further survey required but a precautionary working method statement may be appropriate.
Negligible / No potential	Negligible / no habitat features likely to be used by roosting bats	None.

2.8

* The Conservation of Habitats & Species Regulations 2017 (as amended) affords protection to "breeding sites" and "resting places" of bats. The EU Commission's Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC, February 2007 states that these are places "where there is a reasonably high probability that the species concerned will return".

Based on the above, trees were classified into general bat roost potential groups based on the presence of these features. Table 1 classifies the potential categories as accurately as possible and briefly discusses the relevance of the features. The table is broadly based upon Table 4.1 within Chapter 6 of the Bat Conservation Trust Good Practice Guidelines[8].

[8] Bat Conservation Trust 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 3rd Edition.

Habitat Suitability Index (HSI)

A Habitat Suitability Index assessment was undertaken for all ponds within a 500m radius of the site, where access to ponds was possible (and there were no barriers to dispersal) to assess their potential suitability for great crested newt *Triturus cristatus* (GCN).

The Habitat Suitability Index provides a measure of the likely suitability that a waterbody will support GCN[9]. In general, waterbodies with a higher score are more likely to support GCN than
2.9 those with a lower score and there is a positive correlation between HSI scores and waterbodies with newts recorded. Ten separate attributes are assessed for each waterbody:

2.10
- Geographic location
- Pond area
- Pond drying
- Water quality
- Shade
- Presence of waterfowl
- Presence of fish
- Number of linked ponds
- Terrestrial habitat
- Macrophytic coverage

A score is assigned according to the most appropriate criteria level set within each attribute and a total score calculated of between 0 and 1. Waterbody suitability is then determined according to
2.11 the following scale:

Table 2: Habitat Suitability Index Scores and Waterbody Suitability

HSI Score	Waterbody Suitability
<0.5	Poor
0.5 - 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
>0.8	Excellent

2.12

Suitable terrestrial habitat for GCN within the site included shelter habitat such as scrub and rank vegetation. opportunities.

2.13

Survey Limitations

The phase 1 habitat survey was undertaken in November outside the optimal botanical period and
2.14 as such there is potential that some floral species may have been under recorded. Whilst the plant species lists obtained should not be regarded as exhaustive, sufficient information was however
2.15 obtained to determine broad habitat types.

Due to the presence of dense scrub along the northern and eastern banks of the Hermitage Brook access along the banksides was partly restricted, as such inspections of the brook were restricted to points where safe access was available.

A small number of trees had dense ivy coverage, the presence of which may have obscured potential bat roosting features.

[9] Oldham R. S., Keeble J., Swan M. J. S. & Jeffcote M. 2000. Evaluating the suitability for the Great Crested Newt, *Herpetological Journal* 10(4).

3.0 RESULTS

Desk Study

Site Context & Historic Data

The current application site historically formed part of a separate residential development off Windmill Lane (planning reference: P/12/2130/2), now completed. This comprised of three separate areas, all of which were previously surveyed by FCPR in 2005 and 2012. Of these areas, "Area 1", as referenced with the former ecological appraisal[10], now encompasses the application site for the current proposed development.

3.1 Historic survey work indicated that the current application site was formerly composed of rough grassland, scrub, bare ground/colonising ephemeral vegetation with a block of woodland in the northwest, bounded by hedgerows and trees situated adjacent the Grand Union Canal / Leicester Navigation Canal and Hermitage Brook. In 2012 a small pond (P1) was present in the east of the site, and a building (B4) in the south east.

3.2 Previously undertaken protected species surveys did not record the presence of reptiles or badger on site, nor the presence of GCN within P1, or roosting bats within B4. Survey of Hermitage Brook and the Grand Union Canal in 2005 recorded evidence of otter *Lutra lutra* along the brook, however no field signs, holts or resting places were recorded during targeted survey in 2012. Aquatic habitats were considered to be sub-optimal for water vole *Arvicola amphibius* due to the presence of dense vegetation, resultant heavy shading and lack of emergent vegetation.

3.3 Aerial imagery from 2016 shows that the entirety of the site, with the exception of the north western woodland and thin strip of scrub along the brook, was stripped clear and used for spoil storage during the construction of the earlier phases of the former application. The most recent imagery (dated 2019) indicates that the site has been left unmanaged following the completion of the adjacent off-site development.

3.4

Statutory Designated Sites

3.5 Review of the www.magic.defra.gov.uk website identified no internationally designated sites present within 15km of the site.

3.6 Two national statutory designations were located within 2km of the site: Cotes Grassland SSSI and Loughborough Meadows SSSI, located approximately 1.3km north east and 1.7km north west of the site, respectively (Figure 1).

3.7 Cotes Grassland SSSI is designated as an area of grassland and supports a variety of plant species such as spotted medick *Medicago arabica* and wild sage *Salvia verbeaca.*

3.8 Loughborough Meadows SSSI is designated as an area of mesotrophic grassland and flooding hay meadows that support nationally scarce plant species such as narrow-leaved water drop-wort and a variety of bird species.

Non-statutory Sites

3.9 A total of eight non-statutory LWSs and two potential LWSs (pLWS) are situated within 1km of the site, as listed within Table 3.

[10] FPCR 2012. *Windmill Lane, Loughborough, Ecological Appraisal*, September 2012.

Table 3: Non-statutory Designated Sites

Site Name (Ref: Fig 1)	Designation	Approximate Distance & Direction	Reason for Designation / Summary Description
Non-statutory Designations (within 1km)			
(3) Charnwood Water	LWS	700m S	Lake with significant amphibian assemblage.
(4) Paget Pastures	LWS	360m S	Transitional mesotrophic/wet grassland
(5) Charnwood Water Marsh	LWS	690m S	Mesotrophic/wet grassland and wet woodland with pond and scrub.
(6) Charnwood Water Wood	LWS		Wet woodland.
(7) Loughborough Moors	LWS	820m S	Mesotrophic grassland and mature crack willow *Salix fragilis*, with two ponds.
(8) Loughborough, Grassland S of Canal at Miller's Bridge LWS	LWS	680m SE	Semi-improved neutral and marshy grassland supporting species such as sweet vernal-grass *Anthoxanthum odoratum*, meadowsweet *Filipendula ulmaria* and false fox sedge *Carex otrubae.*
(9) Field North off Moor Lane	LWS	270m E	Mesotrophic grassland.
(10) River Soar Within Charnwood Borough	LWS	950m NE	River with oxbows/ backwaters and early successional communities. Supports greater pond sedge *Carex riparia* swamp, Red Data Book species and mature trees: common ash *Fraxinus excelsior*, willows *Salix* spp, alder *Alnus glutinosa*.
(11) Quorn Fields Farm & Grand Union Canal	pLWS	340m S	No recent survey data – not known if site still has ecological value.
(12) Disused Railway, Loughborough Viaduct	pLWS	840m N	No recent survey data – not known if site still has value.

Protected and Notable Species

3.10 LRERC provided a number of protected species records from within a 1km radius of the site. A summary of the post 2000 records relevant to this assessment are provided below, and locations are shown at Figure 1. Badger records have been omitted from Figure 1 due to the sensitive nature of sett locations in respect of legislation.

3.11 Badger

Several badger records were returned by the local records centres from within 1km of the site, of 3.12 which the closest was located over 450m from the site, comprising of badger field signs. Two records of setts were also returned, both located over 500m from the site.

Bats

Several records of foraging and commuting bat species, as well as bat roosts were provided from 3.13 within 1km; these included soprano pipistrelle *Pipistrellus pygmaeus*, common pipistrelle *Pipistrellus pipistrellus*, unidentified pipistrelle *Pipistrellus* sp., brown long-eared bat *Plecotus* 3.14 *auritus*, noctule *Nyctalus noctula,* Daubenton's bat *Myotis daubetonii* and unidentified bat species.

Otter and Water Voles

No records of otter or water voles were returned within 1km of the site boundary.

Reptiles

No records of reptiles were identified within 1km of the site.

Amphibians

A single common frog *Rana temporaria* record was returned, located approximately 850m south east of the site. No other amphibian records were returned from within the 1km search radius.

Birds

3.15 Several records of common and widespread bird species were returned via the data search, of which a number were associated with LWSs to the south east and south west of the site, including species protected under Schedule 1A of the Wildlife and Countryside Act 1981 such as red kite *Milvus milvus* and Schedule 1 species such as peregrine *Falco peregrinus* and fieldfare *Turdus pilaris*.

3.16 Other Priority Species

Recent records of the priority invertebrate species white-letter hairstreak *Satyrium w-album* were returned by the local record centre. Records were located along a section of the Grand Union Canal situated directly adjacent the north western boundary of the site.

3.17

Phase 1 Habitat Survey

3.18 The site predominantly comprised a single field compartment characterised by a combination of enclosed ephemeral short perennial and tall ruderal vegetation. This has established over a substrate that is largely compact as result of historic site clearance work, extending across the majority of the site to form a single homogenous habitat. In the northwest, a small block of semi-mature broadleaf plantation woodland and dense scrub was present bordering the Grand Union Canal and Hermitage Brook which demarcated the western and northern/eastern site boundaries respectively. Additional habitats recorded included: developed patches of tall ruderal vegetation present at the margins of the site, a parcel of species poor semi-improved grassland with a small patch of marshy grassland present in the north adjacent the Hermitage Brook, and strips of dense scrub and introduced shrub parallel to the Hermitage Brook along the eastern site boundary.

3.19 Detailed descriptions of all habitat types recorded are provided below with habitat locations denoted within Figure 2. Example photographs of each habitat type are included within Appendix A, and a list of botanical species recorded within the respective habitats is provided in Appendix B.

3.20

Ephemeral Short Perennial/Tall Ruderal

3.21 The main body of the site is characterised by a combination of developed ephemeral short perennial (ESP) vegetation interspersed with tall ruderal species throughout. This was largely dominated by perennial and biennial species, with some annual weeds present, forming a continuous enclosed habitat with a variable sward height, typically ranging from 10cm-30cm. This habitat displayed little spatial variation at the site level, whilst some bare ground and sparsely vegetated patches were noted these were limited in extent and did not display distinctive transitions typically characteristic of ecotone gradients (Appendix A – Plate 1).

The ESP was dominated by white clover *Trifolium repens* with frequent Yorkshire fog *Holcus lanatus* and greater plantain *Plantago major,* and occasional ribwort plantain *Plantago lanceolata,* scentless mayweed *Tripleurospermum inodorum,* chickweed *Stellaria media* and dandelion *Taraxacum officinale agg..* Tall ruderal species were characterised by abundant spear thistle *Cirsium vulgare* and creeping thistle *Cirsium arvense,* frequent teasel *Dipsacus fullonum* and rosebay willowherb *Chamerion angustifolium,* and occasional weld *Reseda luteola,* rape *Brassica sp.* and fox and cubs *Pilosella aurantiaca.*

In the east of the site and also adjacent the woodland and canal footpath in the west, more developed patches of tall ruderal vegetation is present with a typical sward height of c.75cm, characterised by spear and creeping thistle, mugwort *Artemisia vulgaris,* nettle *Urtica dioica,* rosebay willowherb, teasel and cleavers *Gallium aparine.*

Plantation Broadleaf Woodland

3.22 A small block of plantation broadleaf woodland was recorded in the northwest of the site, approximately 0.26 ha in size. The canopy was dominated by semi-mature crack willow, with hawthorn *Crataegus monogyna*, elder *Sambucus nigra,* and willow *Salix* sp. in the understory. Ground and field layers of the woodland supported locally dominant areas of nettle, bramble and ivy *Hedera helix*, with abundant leaf litter.

3.23 The western boundary of the woodland was situated directly adjacent the canal footpath with desire lines leading from the footpath into the woodland block, indicating frequent human disturbance. This was further evidenced by the amount of litter present. The northern edge of the woodland transitioned into mature dense scrub located adjacent the northern section of the Hermitage Brook.

3.24

Species Poor Semi-Improved & Marshy Grassland

3.25 A parcel of coarse species poor semi-improved grassland was noted in the northeast of the site, amongst which was a small area of marshy grassland adjacent Hermitage Brook.

3.26 The majority of species poor semi-improved grassland was coarse in nature (average sward height c.45cm) with an average grass-forb ratio of approximately 85:15, characterised by abundant perennial rye grass *Lolium perenne* and frequent Yorkshire Fog, red fescue *Festuca rubra,* and false-oat *Arrhenatherum elatius* grasses. Forb species recorded included broadleaved dock *Rumex obtusifolius,* creeping buttercup *Ranunculus repens,* creeping thistle, white clover and greater plantain.

3.27 Along the northern edge of the grassland was a small linear patch of marshy grassland situated adjacent the northern edge of the Hermitage Book, dominated by soft rush *Juncus effuses* with occasional hard rush *Juncus inflexus* and rare instances of bull rush *Typha latifolia.* Within the marshy area a single patch of ephemeral standing water was noted at the time of survey (approx. 3m x4m, 10-15cm deep).

3.28

Dense Scrub & Introduced Shrub

3.29 A strip of dense scrub in the north of the site, predominantly comprised of young willow saplings and bramble, ran parallel along the northern section of Hermitage Brook before grading into a more developed area of scrub present at the north of the plantation woodland. This larger patch of mature scrub was comprised of hawthorn, elder, hazel *Corylus avellana,* willow, ivy and dense bramble. In addition, occasional individual semi-mature crack willow trees and hawthorn were also scattered along the northern scrub section.

Along the eastern boundary, adjacent to the eastern section of Hermitage Brook, was a strip of scrubby vegetation characterised by dense thickets of bramble, young willow saplings and occasional hazel. Frequent patches of introduced buddleia *Buddleja davidii* were also interspersed throughout this section.

Watercourses

Two watercourses demarcate three of the site boundaries, the Grand Union Canal/Leicester Navigation Canal lies adjacent the western boundary, and Hermitage Brook flows in a northward direction along the entire eastern edge of the site before meandering westward to run parallel to the northern boundary.

3.30 The main brook channel is approximately 2-2.5m wide with an average depth of 1-1.5m and supports a smooth to rippled flow. Parts of the eastern section are modified with canalised concrete stone walls and a culvert. The remainder of the brook had very shallow banksides, particularly along the northern edge where shallow banks graded into adjacent field compartments. The

3.31 majority of the brook was lined with a combination of dense bramble scrub and willow saplings, introduced shrubs and tall ruderal vegetation predominantly comprising of willowherb and nettle. Occasional bull rush, sedges *Carex* sp. and yellow flag iris *Iris pseudacorus* were also evident at aquatic margins along parts of the eastern section. The substrate was a combination of silty sediment with patches of gravel/pebbles at faster flowing sections.

3.32 In comparison, the Grand Union Canal/Leicester Navigation Canal supported a smooth northward flow with an average channel width of c.12m. The banksides were formed from concrete retaining walls and there was a footpath present along the eastern bank. A small strip of amenity grassland separated the concrete wall and footpath.

Fauna

Badger

3.33 No evidence of badger setts or field sign was recorded on site or within 30m of the boundaries, where access was available.

3.34 The body of the site is considered to be sub-optimal for sett creation due to a lack of suitable cover, the predominantly level gradient, and degree of disturbance from surrounding urban environment. Areas of scrub along the brook and woodland provide more suitable opportunities for sett creation, although again these are also prone to disturbance. The ephemeral and tall ruderal vegetation that dominates the site interior is considered to provide sub-optimal forage resources for the species,

3.35 with more suitable opportunities limited to scrub, woodland and grassland around the periphery.

Bats - Roosting

3.36 The small woodland block present in the north west of the site was predominantly comprised of semi-mature crack willow trees, the majority of which were classified as having negligible suitability to support roosting bats due to a lack of suitable features. Similarly, scattered crack willows along the northern site boundary were also classified as having negligible suitability due an absence of

3.37 suitable potential roosting features.

Three trees were identified as having low suitability to support roosting bats due to the presence of dense ivy coverage (Figure 2: T1, T2, T3). The ivy had a stem diameter of <50mm (on average) and was not plate forming, but still may offer limited roosting potential[8]. As such, trees T1-T3 were classified as having low suitability for roosting bats.

No buildings or other structures were present on site that could provide bat roosting opportunities.

Bats - Foraging and Commuting Bats

The ephemeral/underdeveloped ruderal habitats are predominantly exposed with little cover and have low suitability for foraging and commuting bats. In contrast, woodland, scrub habitats and watercourses present at the site boundaries, in particular scrub lined sections of Hermitage Brook, provide high quality forage habitat for bats.

3.38 Watercourses and linear scrub/woodland habitats also provide suitable habitat linkages to offsite habitats present in the wider landscape, including areas of woodland and rough grassland located to the north and south, and the River Soar riparian corridor situated c.1km to the east. It should be noted however that the site is located on the edge of a well-developed urban environment and as such habitats and linear features are likely subject to increased levels of light spill, in comparison to more rural habitats present offsite to the east.

3.39

Otter and Water vole

No evidence or field signs of otter or water vole were recorded along Hermitage Brook or the Grand Union Canal during the extended Phase 1 habitat survey, where access was available.

3.40 Habitats present along Hermitage Brook are considered to be sub-optimal for use by water vole due to the presence of dense scrub and woodland along the majority of the brook, resulting in high

3.41 levels of shading and limited emergent vegetation growth. Furthermore, parts of the eastern section of the brook are canalised with well-sealed stone walls and as such limit opportunities for burrow creation. The bank sides along the north of the brook are relatively shallow, grade into adjacent fields and appear to be susceptible to frequent changes in water levels. The canal section adjacent the west of the site is also concrete lined and is susceptible to frequent human disturbance.

3.42 The brook and canal are considered to provide suitable foraging opportunities for otter and suitable habitat linkages to waterbodies and watercourse present in the wider landscape. The canal also provides direct links to the River Soar and neighbouring waterbodies at a confluence located approximately 2.15km south of the site.

3.43

Reptiles

Ephemeral and ruderal vegetation present within the body of the site is considered to provide some forage resources for reptiles due to the variable short sward height. Some basking opportunities

3.44 for reptiles are present among the relatively open vegetation throughout the main field compartment, however few shelter opportunities were noted within this habitat due to a lack of brash/debris piles or suitable/ tussocky vegetation cover.

In contrast, woodland, scrub, coarse/marshy grassland and more developed tall ruderal vegetation at the site peripheries, and the brook corridor provide both suitable forage habitat for reptiles,

3.45 namely grass snake *Natirx natrix,* and opportunities for shelter. The suitability of habitats in the west of the site is reduced in part due to the frequent disturbance resulting from the adjacent footpath and desire lines through woodland.

Great Crested Newt

No permanent ponds or waterbodies considered suitable to support breeding GCN are present on site. A small area of ephemeral standing water was noted within the brook floodplain in the north of the site at the time of survey. The Habitat Suitability Assessment of this feature indicated it had "poor" suitability to support breeding GCN (Table 4).

Table 4: Results of Habitat Suitability Index Assessment

SI -1	SI - 2	SI -3	SI -4	SI -5	SI -6	SI -7	SI -8	SI -9	SI -10		
Geographical Location	Pond Area	Pond Drying	Water Quality	Shade	Fowl	Fish	Ponds	Terrestrial Habitat	Macrophytes	HSI score	Pond Suitability
1	0.05	0.1	0.67	1	1	1	0.1	0.67	0.55	0.41	Poor

Examination of OS maps and aerial imagery did not indicate the presence of any ponds within 500m of the site. Furthermore, the flow of Hermitage Brook is considered to act as a partial barrier to GCN at the eastern and northern site boundaries, and the vertical canal sides prevent GCN dispersal onto the site from the west.

3.46

The main body of the site is considered to provided sub-optimal foraging and shelter habitat for GCN during their terrestrial life stage due to the relatively short and open sward and absence of suitable refugia. Habitats present at the margins of the site however, including scrub, woodland, developed tall ruderal vegetation, coarse grassland and marshy areas, provide suitable terrestrial habitat for the species, offering opportunities for both shelter and forage.

3.47

Birds

Scrub, woodland and scattered trees and tall ruderal vegetation towards the site peripheries provide suitable nesting habitat for a range of passerine and urban fringe bird species, as well as foraging resources throughout the year. The brook and adjacent canal provide some foraging opportunities for a range of species including kingfisher *Alcedo atthis*, though the availability of such habitat is limited in extent in the context of the surrounding landscape, in particular the River Soar corridor present c.1km to the east.

3.48

3.49

The main open field compartment including grassland in the north extends across c.1.1ha, with shrub and tree cover lining more than half the site perimeter. Furthermore, habitats towards the west are prone to frequent disturbance from the adjacent canal footpath. As such the site is not considered to provide suitable opportunities for ground nesting birds such as skylark *Alauda arvensis*.

3.50

3.51

Priority Species

No records of wych elm *Ulmus glabra* were recorded within scrub or woodland present on site. Wych elm is one of the larval foodplants of the white-letter hairstreak.

Opportunities for other priority species such as hedgehog were present within the site in the form of scrub and woodland.

4.0 DISCUSSION & RECORMENDATIONS

Statutory Designations

No direct impacts are anticipated to either Cotes Grassland SSSI or Loughborough Meadows SSSI as a result of construction works, given their distance and physical separation from the site.

Both are separated from the site by urban development and linear infrastructure and there are no direct footpath linking them to the site. As such, any material indirect impact to their functional integrity through increased recreation pressure is considered unlikely.

4.1 Whilst the application site lies within the Impact Risk Zone (IRZ) of both SSSIs, the screening

4.2 criteria for each cites development proposals in excess of 100 residential units or development located outwith existing settlements/urban areas. Given the current application is for 30 new units and the site is located on the edge of Loughborough with existing residential development

4.3 immediately to the south and west, the proposed development is not considered to fall within the IRZ criteria.

Non-Statutory Designations

The site has a degree of habitat connectivity to a number of LWS/pLWSs to the south via the canal, footpath and foot bridges. The risk of indirect impacts operating via hydrological connections will

4.4 be minimised via best practice working methods for pollution control, as outlined below.

These sites lie directly adjacent existing urban areas, and aerial imagery indicates that they are

4.5 enclosed by hedgerows. Indirect impacts due to increased recreation use are therefore considered likely to be minor and not significant, though would operate in the long-term.

4.6 Any potential indirect impacts on local sites of ecological value may be further mitigated through the provision on site of open community space incorporated within green infrastructure.

4.7 **Habitats**

The degree to which habitats receive consideration within the planning system relies on a number of mechanisms, including:

- Inclusion within specific policy (e.g. veteran trees, ancient woodland and linear habitats in the National Planning Policy Framework(NPPF) (2019), or non-statutory site designation),

4.8

- Identification as a Habitat of Principal Importance for biodiversity under the NERC Act (2006)

4.9 and consequently identification as a Priority Habitat within the LBAP.

Under the NPPF, development should seek to contribute a net gain in biodiversity with an emphasis on improving ecological networks and linkages where possible.

The ESP/tall ruderal habitat that dominated the central areas of the site was indicative of early- to mid-successional communities following clearance of the site in 2016. This displayed little spatial variation at the site level, the ESP and tall ruderal habitat components typically forming a single enclosed habitat with only occasional small patches of bare ground and sparely vegetated areas noted. It therefore did not display a sufficient degree of spatial variation or changes of ecotone gradients to qualify as Open Mosaic Habitat[11]. The ESP/tall ruderal habitat is considered to be of local value, and will be lost as a result of the development.

[11] Maddock, A. (ed.), 2008. *UK Biodiversity Action Plan Priority Habitat Descriptions: Open Mosaic Habitat on Previously Developed Land*. Biodiversity Information and Recording Group (Updated July 2010). Joint Nature Conservancy Committee, Peterborough.

Plantation broadleaf woodland in the northwest comprised relatively common species and is limited in extent though does contribute to the overall ecological value of the site in terms of biodiversity and provision of forage and shelter resources for wildlife, in particular urban fringe bird species. Plantation broadleaf woodland has local ecological value and it is recommended that where possible it is retained as part of the green infrastructure of the site.

4.10 Similarly species poor semi-improved grassland, marshy grassland and dense scrub/introduced shrub habitats, although largely restricted to the northern and eastern boundaries collectively contribute to the overall structural and species diversity of the site and provide potential resources for a range of wildlife. These habitats are widely replicated in the surrounding and as such also considered to be of local value. Where practical these habitats should be retained and

4.11 appropriately protected throughout construction using high visibility fencing and/or signage. Where minor loss of these habitats is unavoidable this should be appropriately compensated through additional habitat creation within the soft landscaping using native species grassland and/or scrub and tree planting.

Hermitage Brook and the Grand Union Canal have ecological value due to their character, value to wildlife and connectivity to additional waterbodies present in the wider landscape. No direct

4.12 impacts on these features are anticipated as a result of the development, however there is potential for indirect impacts during ground operations and construction, such as increased sediment load, run-off, spillages, and increased light and noise levels. Indirect impacts should be avoided where possible, with works completed in accordance with an appropriate Construction and Environmental Management Plan (CEMP) to avoid degradation of watercourses. Furthermore, it is recommended that a 10m ecological buffer is implement along the length of the book, to be maintained throughout the construction period and incorporated as part of the green infrastructure of the site design (Figure 2). This is to further mitigate potential indirect impacts on the brook during the construction

4.13 period and protect/retain the majority of bankside and adjacent habitats in perpetuity.

All retained habitats should be protected during the construction phase of the development with works carried out in accordance with the CEMP and best practice guidance. In addition, impacts

4.14 to retained trees and scrub should be avoided through the implementation of root protection zones[12].

To compensate for the loss of ESP/tall ruderal habitat, species poor semi-improved and marshy grassland, and tall ruderal habitats, species diverse native habitat creation should be incorporated into green infrastructure and landscape proposals. Any habitat creation should seek to provide

4.15 habitats of a similar type and or value (or higher) to those lost; this may include native scrub or tree planting, creation of wildflower/native flowering lawn grassland, rough grassland, and/or swales and attenuation features with associated wet grassland and/or marginal planting.

All habitats, both retained and created, should be managed in the long-term for the benefit of local biodiversity. A Landscape and Ecological Management Plan (LEMP) or similar document can be secured by condition to provide a detailed framework for appropriate management and maintenance works and associated timings.

[12] BS 5837:2012 *Trees in relation to design, demolition and construction recommendations*.
FPCR 2021. *Arboriculture Assessment and Tree Retention Plan. Moor Lane, Loughborough.*

Fauna

Principal pieces of legislation protecting wild species are Part 1 of the Wildlife and Countryside Act 1981 (*as amended*) (WCA) and the Conservation of Habitats and Species Regulations 2017 (*as amended*). Some species, for example badgers, also have specific protective legislation (Protection of Badger Act 1992). The impact that this legislation has on the Planning system is outlined in ODPM 06/2005 Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System.

4.16 This guidance states that as the presence of protected species is a material consideration in any planning decision it is essential that the presence or otherwise of protected species, and the extent to which they are affected by proposals is established prior to planning permission being granted. Furthermore, where protected species are present and proposals may result in harm to the species
4.17 or its habitat, steps should be taken to ensure the long-term protection of the species, such as through attaching appropriate planning conditions.

In addition to protected species, there are those that are otherwise of conservation merit, such as Species of Principal Importance for the purpose of conserving biodiversity under the NERC Act
4.18 (2006). These are recognised within the NPPF, which advises that when determining planning applications, LPAs should aim to conserve and enhance biodiversity.

Badger

4.19 No evidence of badger activity was recorded on site and consultation data returned a limited number of distant records, the species is however known to be present within the wider landscape.

4.20 Habitats on site are considered to provide limited opportunities for sett creation, largely restricted to areas of woodland and scrub at the margins where such habitats are prone to human disturbance from the adjacent western footpath. In terms of foraging potential, the ESP/ruderal vegetation on compacted poor soils is considered to provide sub-optimal foraging resources for the species. Grassland, woodland, and scrub provide some foraging opportunities for badger around the site perimeter and will be retained where practical. Overall, the site is considered to be of no more
4.21 than site level value for the species. Given the lack of setts recorded on site or within adjacent habitats badgers are not considered to pose a significant constraint to the development.

Given the potential for badgers to subsequently move into the area **it is recommended that a walkover survey is carried out within 3 months prior to the start of works** to ensure that any newly created setts within the working area can be fully taken into account, and appropriate
4.22 measures taken/licences obtained as necessary.

Bats

<u>Roosting Bats</u>

Three trees (T1, T2, T3) were classified as having low suitability for roosting bats due to ivy coverage. British Standard BS 8596:2015[14] recognises that the presence of ivy coverage can provide limited roost opportunities for roosting bats, and as such trees may be classified as having low suitability to support roosting bats. As T2 and T3 are located within existing woodland, and T1 is at north eastern margin, it is recommended that these trees are retained within design proposals.

[14] British Standard BS 8596:2015. *Surveying for Bats in Trees and Woodland* – Guide, October 2015.

Should any of these require removal to facilitate development this should be completed in line with a final inspection and appropriate soft felling bat method statement.

The remainder of the trees on site were identified as having negligible roost potential due to the lack of suitable roost features. All were located within the northwest woodland or were present at the margins of the site, therefore it is recommended that these are retained and incorporated into green infrastructure. Any trees identified as having negligible roost suitability may be removed without constraint to roosting bats, if required (though see timing constraints with regard to nesting birds below).

4.23

No further survey work in respect of roosting bats is therefore considered necessary, in line with current BCT guidance[8] for negligible and low suitability trees. All trees that are retained should be appropriately buffered and protected during the construction phase, i.e. working methods should adhere to standard best practice guidance, including BS5837[12], to avoid any adverse impacts to potential roost sites identified and adjacent vegetation cover, including impacts from lighting. Impacts on retained trees and potential roost features will be further mitigated through the provision of an appropriate lighting strategy, details of which are provided in subsequent sections.

4.24

To further enhance roosting opportunities for bats on site it is recommended that bat boxes are erected on suitable retained trees throughout the green infrastructure. Ideally a mix of boxes should be used to match different species requirements. These should be installed in groups of 2-4 at varying heights between 4-6m on suitable trees in unlit and clutter free environments but adjacent to continuous greenspace, favouring south, south-east or south-west facing aspects.

4.25

Foraging and Commuting Bats

4.26

The main body of the site is considered to be of low suitability for foraging and commuting bats, furthermore, given the proximity to the surrounding urban environment the site is also likely to be prone to some degree of light spill, particularly in the southwest given the lack of trees and scrub.

4.27

Woodland, scrub and watercourse habitats adjacent and at the site boundaries provide good quality foraging and commuting habitat for bats, and suitable links to high quality offsite habitats. It is recommended that these are retained and incorporated as part of the site green infrastructure.

4.28

If key boundary features and existing woodland habitats can be retained and protected from impacts during construction and in the long term, including any impacts arising from increased light levels, no further activity surveys are proposed. This approach is considered proportionate given the overall quality of habitats within the body of the site, the retention of higher quality habitats and the degree of mitigation proposed below[8].

4.29

4.30

As outlined previously, the green infrastructure should incorporate native species scrub, tree and/or grassland habitats to provide additional foraging habitat for bats. The planting scheme should seek to include nectar and fruit producing species in order to further promote invertebrate assemblages, and to increase the structural diversity of the site though the provision of sheltered flight areas.

Artificial lighting has potential to adversely affect bat foraging/commuting habitats and potential roost sites, including bat boxes, as well as other nocturnal wildlife. It is therefore recommended that a sensitive lighting scheme is devised and implemented during site preparation and construction works. Only areas requiring lighting for safety or security should be lit at all, and any lighting will be directional to avoid spill onto retained and new potential bat foraging and commuting

habitats including tree cover, hedgerows, any new ponds or SuDS facilities, and potential roost sites including bat boxes and retained trees with roost suitability.

The lighting scheme for the development should similarly be designed carefully in areas close to existing or new potential foraging and commuting habitats, including potential roost sites. Where artificial lighting cannot be avoided the lighting scheme(s) will be designed with reference to the Bat Conservation Trust and Institute of Lighting Professionals guidance[17,18] and will be designed to reduce spill and be downwardly directional. All lighting will use the lowest intensity possible for its purpose and meet the current environmental standards of good practice to minimise potential lighting disturbance to bats and other nocturnal species.

4.31

Otter and Water vole

Hermitage Brook provides sub-optimal habitat for water vole due to heavy shading, limited emergent vegetation, and unsuitable bank profiles. Similarly, the Grand Union Canal provide limited opportunities for the species due the presence of concrete head walls, a lack of emergent vegetation, and frequent disturbance from the footpath. Furthermore, no evidence of the species was recorded during the Extend Phase 1 Habitat survey and no records of the species were returned from within 1km of the site. Water vole is therefore not considered to pose a constraint to the development.

4.32

No evidence or field signs of otter were recorded during the most recent site survey. Previous survey in 2012 also recorded no field signs, holts, or resting sites along the entire length of the brook. though historic survey data from 2005 identified otter field signs and two potential holt locations, both situated at the southern end of the brook on the opposite site of Moor Lane, outwith this application site.

4.33

4.34

The canal and the brook provide potential foraging opportunities for otter and suitable connectivity to higher quality habitats present in the wider landscape, in particular the River Soar corridor which connects to the canal at a confluence c.2.15km to the south. Given the large home range of otters (approx. 30km for males and 20km for females) and historic evidence in the local area the canal and the brook sections that bound the site may be utilised by commuting individuals on occasion.

4.35

No direct impacts or works to the brook or canal are anticipated as a result of the development. Potential disturbance of otter commuting habitats will be mitigated through the provision of a 10m ecological buffer alongside the book, and any impacts from lighting would be avoided as outlined above. Furthermore it is recommended that construction and ground operations are conducted in line with an appropriate otter working method statement, details of which can be included within the CEMP and are likely to include:

- Ensuring site operatives will be made aware of the potential presence of otters and the need for a duty of care when working close to the water courses.
- Any deep excavations to be left open over-night will be covered, or shallow, sloping batters will be installed to allow escape and prevent animals becoming trapped within the working area.
- Illumination of the brook (inclusive of the 10m buffer zone) should be avoided during site operations, and appropriate working hours implemented to avoid works during nocturnal hours.

[17] Bat Conservation Trust. 2011. *Statement on the Impact and Design of Artificial Light on Bats*.
[18] Institute of Lighting Professionals and Bat Conservation Trust, 2018. *Guidance Note 8 Bats and Artificial Lighting*.

Reptiles

Whilst habitats within the main body of the site are considered to provide some foraging and basking opportunities for the taxa, the bulk of suitable habitat is restricted to the eastern and northern peripheries of the site; inclusive of linear boundary features such as scrub lined sections of the brook, developed tall ruderal vegetation, and patches of coarse/marshy grassland.

4.36 Previously undertaken presence/absence surveys for reptiles did not record the presence of any reptile species on site. This is further supported by recent 2020 consultation data which did not return any records of reptiles from within a 1km radius of the site.

4.37 Aerial imagery also shows that the vast majority of the site was stripped bare during a clearance exercise in 2016 and was thereafter utilised as a soil storage facility whilst construction of the development to the south was ongoing (c.2016-2019). Colonisation of establishing habitats by reptiles often takes several years and is influenced by the site history[19,20,21], therefore whilst the

4.38 site encompasses some areas of suitable habitat it is not considered suitable to support a viable reptile population.

4.39 Retention of habitats within of the brook and of areas of woodland and scrub in the northwest is recommended, together with the inclusion of native species rough grassland and scrub within the soft landscape proposals to provide further enhancement for the taxa.

4.40 As a precautionary measure **it is recommended that any removal/clearance of scrub, tall ruderal vegetation and ESP/tall ruderal habitat is undertaken in line with a precautionary reptile method statement** to allow the passive displacement of individual reptiles, should they be present locally. Working methods listed within the method statement are likely to include phased directional strimming, staged removal of scrub, and the dismantling of any brash piles (if present) by hand under ecological supervision.

4.41 **Great Crested Newt**

Habitats on site are considered to offer some opportunities for GCN during their terrestrial stage, in particular these include area of scrub, woodland, developed tall ruderal vegetation, and coarse and marshy grassland. The main body of the site in contrast largely provides sub-optimal forage

4.42 habitat for the species due a lack of suitable cover and resting places. The small ephemeral scrape noted in the north is considered to dry out annually therefore has low suitability for GCN.

Given the lack of ponds or other suitable waterbodies within 500m of the site, the partial barrier to movement afforded by the brook and canal, and the absence of local GCN records the species is not identified as a statutory constraint to the development. **In the unlikely event that the species is recorded on site all work must cease with immediate effect and further advice sought form the ecological consultant.**

[19] National Amphibian and Reptile Recording Scheme (NARRS) www.narrs.org.uk/.

[20] Edgar, P., Foster, J. and Baker, J. 2010. *Reptile Habitat Management Handbook*. Amphibian and Reptile Conservation, Bournemouth.

[21] Froglife. 1999. Froglife Advice Sheet 10: *Reptile Survey: An introduction to planning, conducting and interpreting surveys for snake and lizard conservation*. Froglife, Halesworth.

Birds

The Wildlife and Countryside Act 1981 (*as amended*) is the principal legislation affording protection to UK wild birds. Under this legislation all birds, their nests and eggs are protected by law and it is an offence, with certain exceptions to recklessly or intentionally:

- Kill, injure or take any wild bird;
- Take, damage or destroy the nest of any wild bird while in use or being built;

4.43

- Take or destroy the egg of any wild bird.

Species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) are specially protected at all times.

In addition to statutory protection, some bird species are classified according to their conservation

4.44 status, such as their inclusion on the Red and Amber lists of Birds of Conservation Concern (BoCC) in the UK[25]:

4.45

- Red list species are those that are Globally Threatened according to IUCN criteria; those whose population has declined rapidly (50% or more) in recent years; and those that have declined historically and not shown a substantial recent recovery.
- Amber list species are those with an unfavourable conservation status in Europe; those with a population or range that has declined moderately (between 25% and 49%) in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations.
- Green list species fulfil none of the above criteria.

4.46 Habitats towards the margins of the site provide suitable foraging habitat and nesting opportunities for various passerine and common urban fringe bird species. The retention of the north western woodland and woody habitats along/adjacent to the brook will therefore maintain a range of nesting

4.47 and foraging opportunities for the local bird assemblage in the long-term.

Any vegetation clearance, scrub removal and/or tree felling should be competed outside the breeding bird period (March to September inclusive) in order to avoid disturbance and/or destruction of any active nests. If any of these activities is required within the breeding bird period, the proposed working area must first be checked by a suitably trained ecologist. If active nests

4.48 are recorded within the working area these must be appropriately buffered and left undisturbed until the young have fledged.

To provide enhanced nesting opportunities within the site it is recommended that a range of open-

4.49 fronted and small hole (26mm and 32mm) bird boxes are provided on suitable retained trees within the site green infrastructure.

Priority Species

Records of white-letter hairstreak, a Section 41 species under the NERC Act 2006 and Schedule 5 species under the Wildlife and Countryside Act 1981 (sale only) were returned from directly adjacent the northwest of the site. No records of wych elm were recorded on site, however given the presence of white letter hair streak relic specimens likely occur off site within scrub along the

[25] Eaton, M.A., Aebischer, N., Brown, A., Hearn, R., Lock, L., Musgrove, A., Noble, D., Stroud, D. and Gregory, R.D. 2016. Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man. *British Birds*. 108:708-746.

canal. Additional planting of wych elm should be incorporated into the soft landscaping scheme to provide additional larval food plants for the specie.

The retention of scrub and woodland habitats will also ensure long term habitat provision for hedgehog. In addition, any close bordered fencing utilised within gardens should include hedgehog holes (13cm x 13cm) at the base to provide additional connectivity for the species.

5.0 SUMMARY

4.50 Provided below is a summary of the habitats present and the potential for the presence of protected species on site, as well as recommendations for further survey work and appropriate mitigation and compensation measures.

5.1 No direct or indirect impacts are anticipated on any nationally or internationally designated statutory sites of ecological value, furthermore no direct effects on non-statutory sites are anticipated. Precautionary working practices are outlined to ensure the potential for any indirect effects is
5.2 minimised and would not significantly alter the integrity of such sites.

Habitats on site predominantly comprised ESP/tall ruderal vegetation, with plantation broadleaf woodland, dense scrub and introduced shrub, tall ruderals, and species poor semi-improved and
5.3 marshy grassland towards the site boundaries. Two watercourses are also present adjacent the boundaries of the site. Overall, given the habitats present and context the site is considered to support habitats of local ecological value.

5.4 Where practical, habitats should be retained and enhanced, and protected through best practice guidance, including BS5837[12] and any subsequently agreed CEMP. This should include a 10m wide ecological buffer alongside Hermitage Brook, and appropriate workings methods to avoid indirect degradation of the adjacent watercourse. To compensate for habitat losses it is recommended that native species rich and rough grassland, scrub and tree planting, and aquatic
5.5 features such as wet swales are incorporated into the green infrastructure of the site.

No badger setts or recent evidence of badger activity was noted; however the species is known to
5.6 be present in the local area. Prior to construction an updating badger check is recommended to ensure the assessment of the status of badger on site remains robust and up to date.

5.7 An appropriate lighting scheme should be implemented as part of the scheme to minimise light spill onto suitable foraging and commuting habitat and potential roost sites. This will include avoiding
5.8 light spill on to retained tree/shrub cover and the adjacent watercourses.

If required, any removal of low suitability bat trees will be completed under a soft fell method statement.

5.9 The adjacent watercourses provide suitable commuting habitat for otter and connect to higher quality riparian habitat in the wider landscape. Potential disturbance impacts will be mitigated through provision of a 10m wide ecological buffer centred along the brook, and implementation of appropriate precautionary working practices.

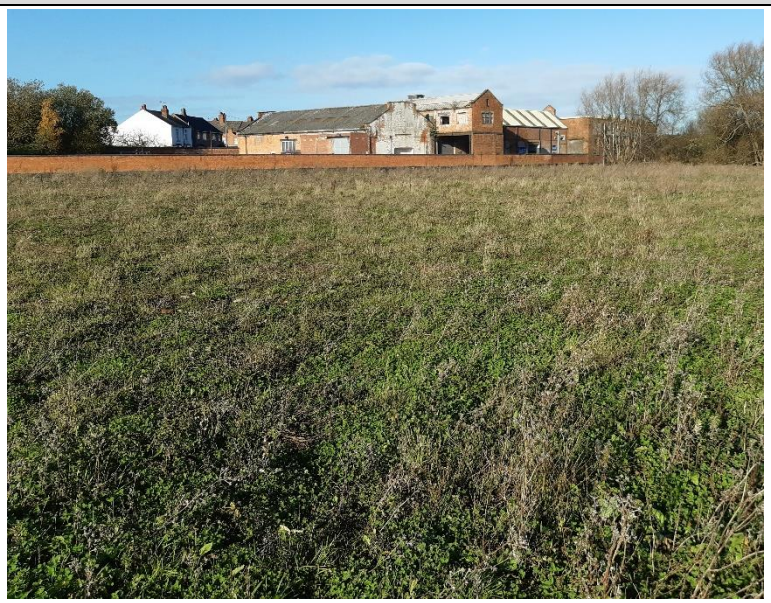
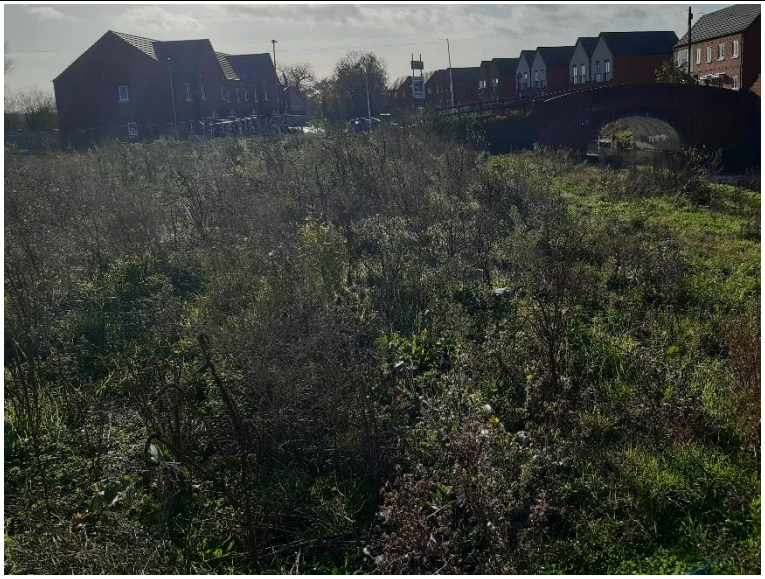
Habitats offer some potential for reptiles however due to the relatively recent clearance of the site and the lack of existing records, the site is considered unlikely to support a viable reptile population. Suitable habitat is largely restricted to the northern and eastern margins of the site, the majority of which is recommended to be retained. As a precaution, any removal of suitable habitats should be undertaken in line with a reptile method statement and completed under ecological supervision.

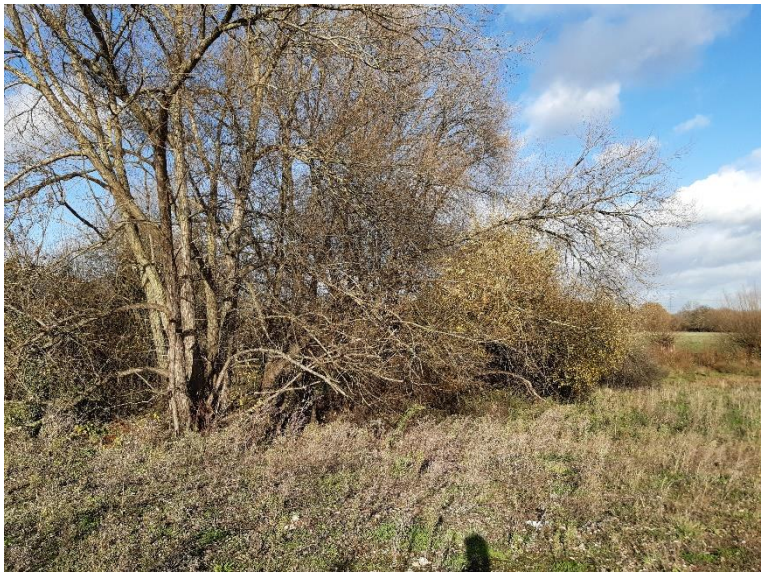
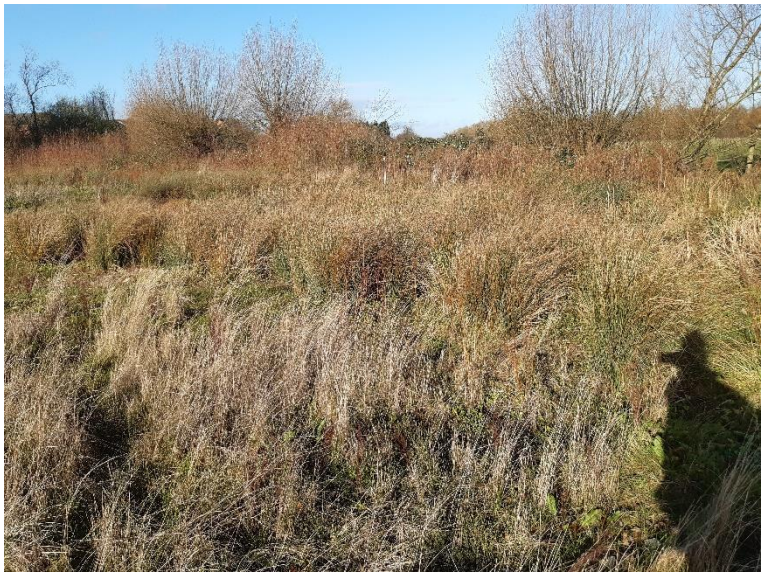
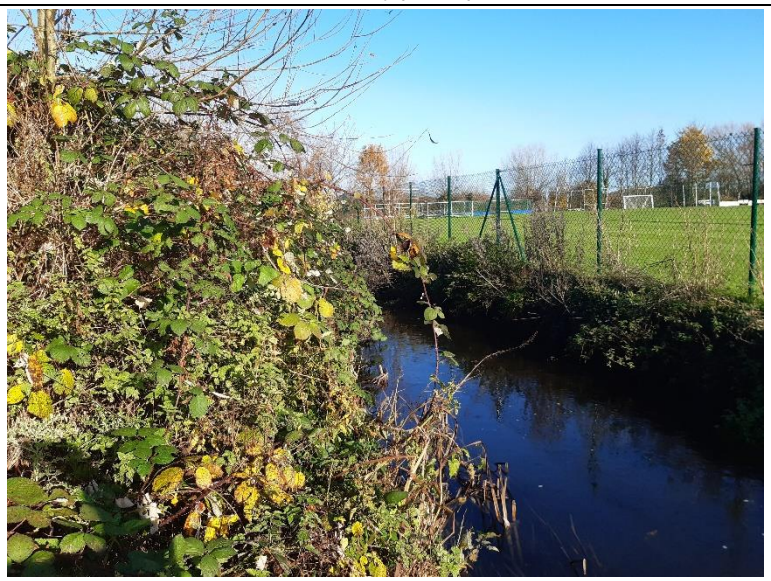
Any clearance of vegetation, trees or scrub considered suitable to support nesting birds must be undertaken outside the breeding season, unless checked by a suitably experienced ecologist and confirmed to contain no active nests.

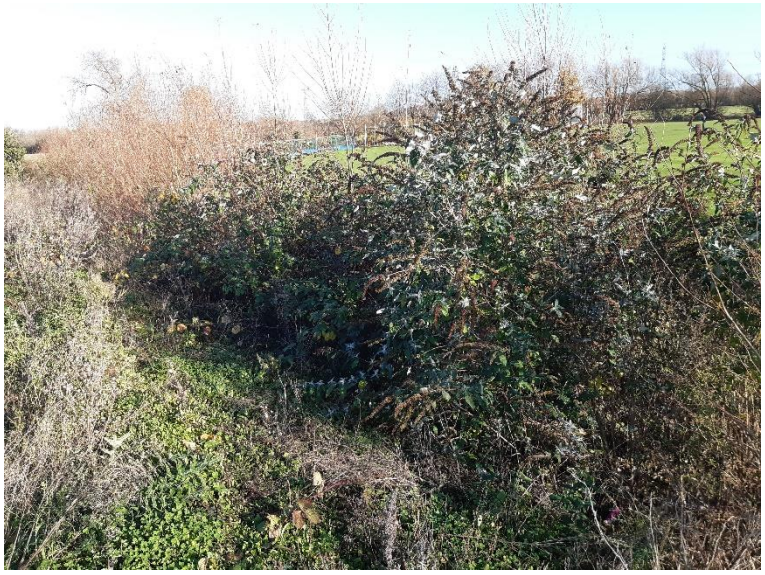
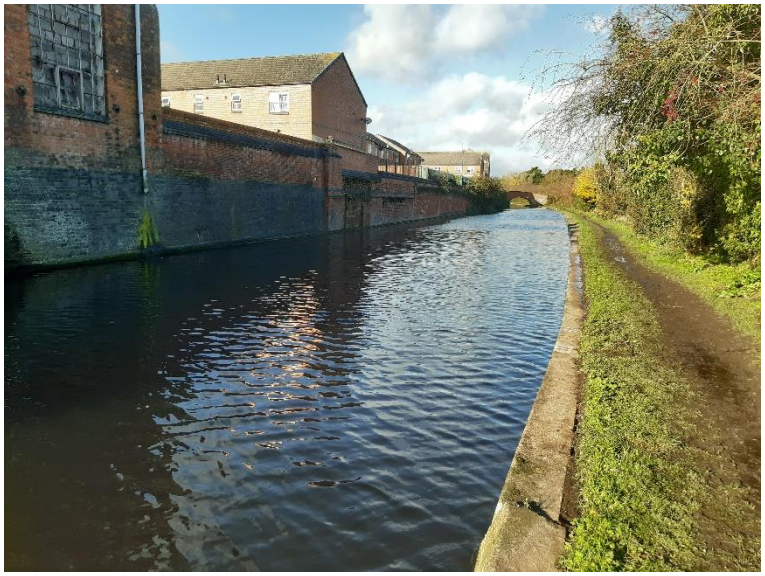
5.10 The white-letter hairstreak butterfly has previously been recorded present within the immediate vicinity of the site. No larval food plants for the species was recorded on site however specimens are likely located within offsite scrub along the canal. Additional planting of elm species is recommended to provide an enhanced resource for the species within the site.

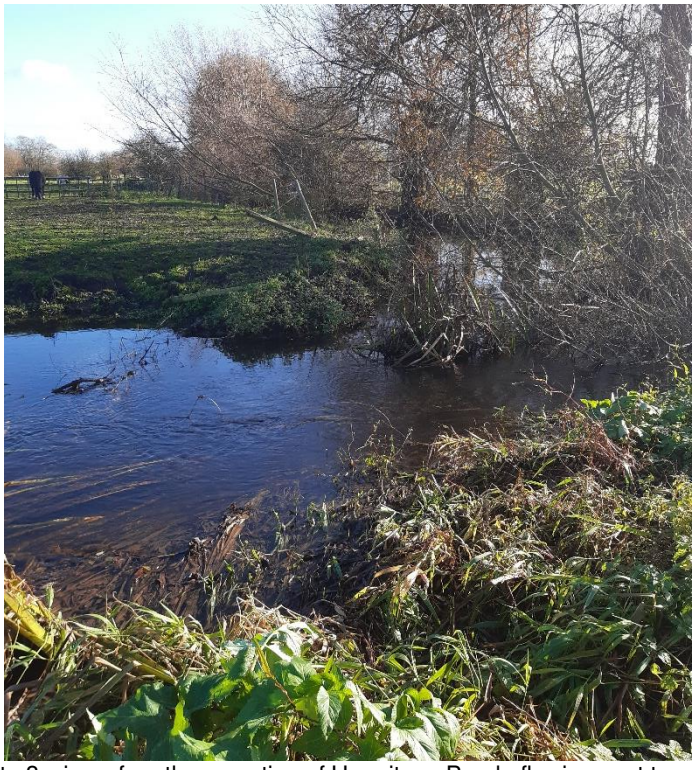
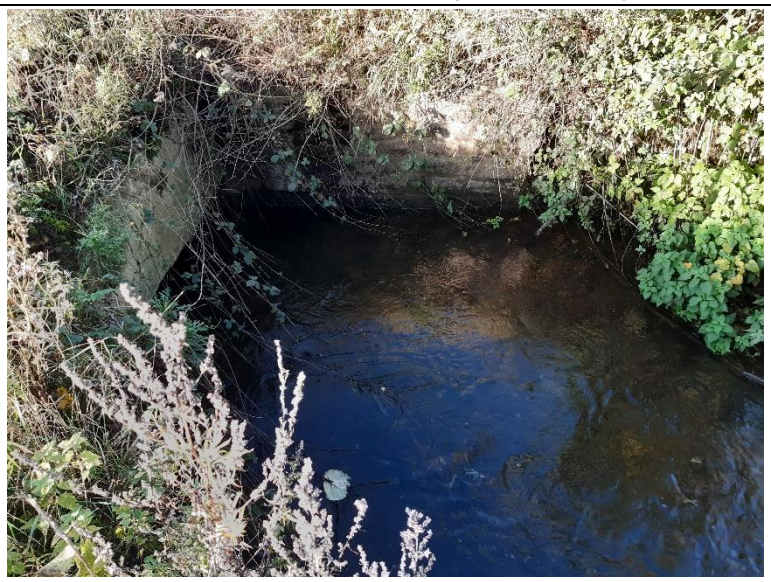
5.11

APPENDIX A: Site Photographs

Habitat Type	Habitat Plate
Ephemeral short perennial/tall ruderal	 Plate 1: view across site from southeast.
Tall ruderal	 Plate 2: view western edge of site.

Habitat Type	Habitat Plate
Broadleaf plantation woodland	 Plate 3: view of broad leaf plantation, north west.
Species poor semi-improved & marshy grassland	 Plate: view of PSI and marshy patch presnt in norht of site.
Dense scrub	 Plate 5: dene bramble scrub and eastern section of Hermitage Brook.

Habitat Type	Habitat Plate
Buddleia shrub	 Plate 6: Introduced *Buddleia sp.* present along eastern section of Hermitage Brook
Grand Union Canal	 Plate 7: View of canal northwards, adjacent the western site boundary

Habitat Type	Habitat Plate
Hermitage Brook (north)	 Plate 8: view of northern section of Hermitage Brook, flowing east to west.
Hermitage Brook (south)	 Plate 9: Culverted section of Hermitage Brook, SE corner adjacent Moor Lane.

APPENDIX B: Botanical Species list

Common Name	Scientific name	Frequency
Ephemeral Short Perennial & Tall Ruderal		
White clover	*Trifolium repens*	D
Yorkshire-fog	*Holcus lanatus*	F
Major plaintain	*Plantago major*	F
Chickweed	*Stellaria media*	O
Mugwort	*Artemisia vulgaris*	O
Weld	*Reseda luteola*	O
Rape	*Brassica napus*	R
Ribwort plantain	*Plantago lanceolata*	O
Spear thistle	*Cirsium vulgare*	A
Scentless mayweed	*Tripleurospermum inodorum*	O
Rosebay Willowherb	*Chamerion angustifolium*	F
Fox and Cubs	*Pilosella aurantiaca ssp. aurantiaca*	O
Dandelion	*Taraxacum officinale agg.*	O
Teasel	*Dipsacus fullonum*	F
Mugwort	*Artemisia vulgaris*	LA
Common nettle	*Urtica dioica*	A
Cleavers	*Galium aparine*	A
Hedge bindweed	*Calystegia sepium*	O
Common Thistle	*Cirsium vulgare*	R
Teasel	*Dipsacus fullonum*	LF
Species Semi-improved & Marshy Grassland		
Major plantain	*Plantago major*	O
Common Thistle	*Cirsium vulgare*	F
Perennial Rye-grass	*Lolium perenne*	A
Red Fescue	*Festuca rubra agg.*	F
Broadleaved dock	*Rumex obtusifolius*	O
White clover	*Trifolium repens*	O
Creeping buttercup	*Ranunculus repens*	LA
Hard Rush	*Juncus inflexus*	LR
Soft rush	*Juncus effusus*	LO
Bull rush	*Typha latifolia*	LR
Dense Scrub, Introduced Shrub, Trees & Woodland		
Crack Willow	*Salix fragilis*	D
Willow sp.	*Willow sp.*	F
Common nettle	*Urtica dioica*	LA
Bramble	*Rubus fruticosus agg.*	LD
Broadleaved dock	*Rumex obtusifolius*	O
Wood aven	*Geum urbanum*	O
Hogweed	*Heracleum sphondylium*	O
Elder	*Sambucus nigra*	O
Iyy	*Hedera sp.*	LA
Cleavers	*Galium aparine*	F

Key: D: Dominant A: Abundant F: Frequent O: Occasional R: Rare L: Locally

Site Reference	Site Name & Designation
1	Cotes Grassland SSSI
2	Loughborough Meadows SSSI
3	Charnwood Water LWS
4	Paget Pastures LWS
5	Charnwood Water Marsh LWS
6	Charnwood Water Wood LWS
7	Loughborough Moors LWS
8	Loughborough, Grassland S of Canal At Miller's Bridge LWS
9	Field North Of Moor Lane LWS
10	River Soar Within Charnwood Borough LWS
11	Quorn Fields Farm & Grand Union Canal pLWS
12	Disused Railway, Loughborough Viaduct pLWS

Key:

- Site Boundary
- 1km Search Area
- 2km Search Area

Designated sites

- Site of Special Scientific Interest (SSSI)
- Local Wildlife Site (LWS)
- Potential Local Wildlife Site (pLWS)

Notable species with birds

- Brambling
- Brown Long-eared Bat
- Common Crossbill
- Common Pipistrelle
- Daubenton's Bat
- Fieldfare
- Firecrest
- Goldeneye
- Greylag Goose
- Hobby
- Kingfisher
- Little Gull
- Little Ringed Plover
- Merlin
- Noctule Bat
- Osprey
- Peregrine
- Pipistrelle Species
- Red Kite
- Redwing
- Soprano Pipistrelle
- Unidentified Bat
- Whimbrel
- White-letter Hair Streak
- Common Frog

0 500 1000 m

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masterplanning ■ environmental assessment ■ landscape design ■ urban design ■ ecology ■ architecture ■ arboriculture

client: Landmark Planning Ltd

project: Moor Lane, Loughborough

drawing: Consultation & Site Location Plan

scale: 1:19000 | drawn: VR/CJW | issue: 2/12/2020

drawing / figure number: **Figure 1** | rev: **9798-E-1**

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Key

- Site Boundary
- Tree with bat potential
- Target note
- Broadleaved tree
- Hermitage Brook
- Broadleaved woodland - plantation (recommended retained)
- Hardstanding
- Amenity Grassland
- Ephemeral Short Perennial/Tall Ruderal
- Introduced shrub
- Marshy Grassland
- Tall Ruderal
- SI Species Poor Semi-Improved Grassland
- Grand Union Canal
- Dense Scrub
- 10m Ecological Buffer

client
Landmark Planning Limited

project
Moor Lane,
Loughborough

drawing title
PHASE 1 HABITAT PLAN

scale 1:900 | drawn CW | issue 14/12/202(

drawing / figure number
Figure 2

rev
- 9798-E-1

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