

Long Copse Lane

ENVIRONMENTAL MITIGATION MANAGEMENT PLAN

784-B035503

Metis Homes

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GLOSSARY

EA	Ecological Appraisal
ECow	Ecological Clerk of Works
EMMP	Ecological Mitigation Management Plan
Habitats Regulations	Conservation of Habitats and Species Regulations 2017
ILP	Institution of Lighting Professionals
LPA	Local Planning Authority
NPPF	National Policy Framework
OPDM	Office of the Deputy Prime Minister
W&CA	Wildlife & Countryside Act 1981 (as amended)

1.0 INTRODUCTION

1.1 BACKGROUND

Tetra Tech was commissioned by Metis Homes on 10th May to produce an Ecological Mitigation and Management Plan (EMMP) for the site known as Long Copse Lane. This report is a requirement to discharge Condition 9 of planning consent APP/21/01376 Havant Borough Council, which reads as follows:

'9. Prior to the commencement of development activities, a detailed Ecological Mitigation & Management Plan shall be submitted to and approved in writing by the Local Planning Authority. All EMMP measures shall be in accordance with those detailed within the Ecological Assessment (WYG, November 2021), Reptile Presence/Likely Absence Survey (WYG, November 2021) and Ecological Management Plan (WYG, May 2020) unless otherwise agreed in writing by the local planning authority. The EMMP shall include (but not necessarily be restricted to): grassland translocation (to include details of preparatory works, translocation methods and timings, aftercare); details of all habitat and species mitigation measures; details of the ongoing management of all compensatory/enhancement habitat; location, type and number of all bat/bird boxes and other ecological enhancements; details of lighting. All ecological compensation/enhancement measures shall be installed/implemented in accordance with ecologist's instructions and retained in a location and condition suited to their intended function.'

This report addresses the following items with a view to maintaining and enhancing the biodiversity value of the site in the long-term:

- Mitigation for the protected and notable habitats and species that are likely to be impacted during the construction phase of the development;
- Details of enhancement measures to be incorporated into the site for protected and notable species; and
- Long-term monitoring to determine the effectiveness of mitigation and management undertaken.

Please note that the EMMP is intended to be a working document that will be updated if required during the construction phase. This document will be agreed with the Local Planning Authority (LPA) prior to the commencement of works on site with any amendments discussed with them throughout the duration of the 30-year monitoring. If, during the implementation of this EMMP significant new ecological information comes to light, then the EMMP should be revised accordingly by the project ecologist.

This report has been prepared by Assistant Ecologist Harriet Kimber and the conditions pertinent to it are provided in Appendix A.

1.2 SITE LOCATION

The site is located off Long Copse Lane, Emsworth, Hampshire and is centred at Ordnance Survey National Grid Reference SU 7518 0785. The 0.4 ha site is shown on Figure 1 and consists of neutral semi-improved grassland with unmanaged species-rich hedgerows with mature trees along its southern and eastern boundaries and species-poor managed hedgerows along the northern and western boundaries. The site is situated on the settlement edge, immediately adjacent to dense residential development to the south and east.

1.3 DEVELOPMENT PROPOSALS

The proposed development is for nine residential dwellings and access off Long Copse Lane, with open space to mitigate for the loss of grassland and to protect boundary features.

1.4 CONTEXT OF THE MANAGEMENT PLAN

Though designated as semi-improved grassland, the site retains significant elements of unimproved grassland (WYG, 2019). The development site has been designated as a Site of Importance for Nature Conservation (SINC) and is known as 'Land East of 54 Long Copse Lane'. The grassland is species-rich with several acid/neutral grassland indicator plants such as corky-fruited water dropwort *Oenanthe pimpinelloides* and hoary ragwort *Jacobaea erucifolius* (WYG, 2020). As a result of the development the grassland will be lost, and therefore as part of the local planning policy and discharge of Condition 9 (APP/21/01376, Havant Borough Council), adequate mitigation measures are required which include a turf translocation.

2.0 BASELINE ECOLOGICAL FEATURES

Table 1 provides a summary of the baseline ecological work completed at the site to date. The results of the Phase 1 habitat survey undertaken during the Ecological Appraisal (EA) can be seen in Figures 2.

Table 1: Ecological Report Summary

Survey Type	Month Survey Conducted	Summary of Results
Ecological Appraisal (WYG, 2021)	November 2021	The site comprises neutral semi-improved grassland with unmanaged species-rich hedgerows with mature trees along its southern and eastern boundaries and species-poor managed hedgerows along the northern and western boundaries. The semi-improved grassland represents a poor example of lowland meadow Habitat of Principal Importance (HPI) and is not considered to be of SINC value, chiefly due to the lack of unimproved grassland indicators. The site has high suitability for reptiles, moderate suitability for foraging badgers (and sett creation) and breeding birds within the boundary hedgerows and low suitability for commuting and foraging bats, dormice and notable invertebrates.
Long Copse Lane, Emsworth: Desk Study (WYG, 2019)	-	The purpose of the desktop study was to identify and locate potential sites which could, with suitable enhancement or management, compensate for the full or partial loss of the SINC. Fifteen SINC's designated as grasslands were located within 5 km of the site. The mitigation site for the development would ideally be located on one of the SINC's that has a potential for improvement.
Long Copse Lane Management Plan (WYG, 2020)	May 2020	The floristic diversity of the meadow south of Long Copse Lane can be improved by transplanting turves from the adjacent Long Copse Lane SINC. Management should prevent further encroachment of scrub on site. Existing scrub should be maintained and managed for nesting birds.
Reptile Report (WYG, 2021)	September-October 2021	A peak count of three adult slow worms were recorded on site on the 27th September and 4th October 2017 and a peak count of five common lizards were recorded on the 6th October 2017. As such the site was considered to have a 'low population' of slow worms and 'good population' of common lizards. The populations onsite were also considered to be breeding as one juvenile common lizard and several juvenile slow worms were recorded. The reptiles were found mainly on the northern and western hedgerow boundary, with no reptile found towards the centre of the site.

3.0 RELEVANT LEGISLATION AND PLANNING POLICY

3.1 LEGISLATION

Based on the findings of our assessments, it is considered that the proposals will need to consider the following legal provisions:

- The Wildlife & Countryside Act (W&CA) – Disturbance of nesting wild birds;
- Habitats Regulations – Disturbance, killing or habitat loss affecting a European Protected Species (EPS), i.e., bats.
- The W&CA – Disturbance or killing of reptiles.

3.2 REVISED NATIONAL PLANNING POLICY FRAMEWORK

A revised NPPF was issued on 20th July 2021 (Ministry of Housing Communities and Local Government, 2021) and currently supplements government Circular 06/2005, *Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System* (Office of the Deputy Prime Minister, 2005).

Circular 06/2005 states that the presence of protected species is a material consideration in the planning process. Paragraph 174 of the NPPF also states that:

'Planning policies and decisions should contribute to and enhance the natural 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*
- 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*
- e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*
- f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.*

3.3 LOCAL PLAN

The relevant local planning policy is Policy CS11 of the Havant Borough Council Core Strategy (Havant Borough, 2011). The policy states that planning permission will be granted for development that:

- 1. Ensures the key landscape and built form principles set out in the Havant Borough Townscape, Landscape and Seascape Character Assessment are protected and where possible enhanced by partnership working with developers, groups and the wider community.*

2. *Protects and where possible enhances the borough's statutory and non-statutory designated landscape, habitats and features of biological, hydrological or geological interest. Protection and enhancement will be achieved by appropriate adaptation and mitigation measures including wardening, education and information and the creation of new habitats, water bodies/courses planting of new trees and woodland.*
3. *Has particular regard to the following hierarchy of nature conservation designations within the borough (as identified on the Proposals Map):*
 - (i) *Special Protection Areas (SPA), Special Areas of Conservation (SAC) and Ramsar [International].*
 - (ii) *Sites of Special Scientific Interest (SSSI) and National Nature Reserves [National].*
 - (iii) *Sites of Importance for Nature Conservation (SINC), Local Nature Reserves (LNR), other Ancient Woodland not identified in (ii) above [Local].*
4. *Protects and where appropriate enhances the borough's statutory and non-statutory heritage designations by appropriately managing development in or adjacent to conservation areas, listed buildings, scheduled ancient monuments, historic parks and gardens, archaeological sites, buildings of local historic or architectural interest.*
5. *Supports an ongoing programme of survey of habitats and species and designation of Sites of Importance for Nature Conservation.*
6. *Incorporates partnership working with conservation organisations to improve public understanding of biodiversity and to manage public access to designated sites, particularly on the coast, to reduce harm to nature conservation interests.*
7. *Incorporates partnership working with landowners and developers to ensure land management practices restore, enhance and where appropriate create new valued landscapes, habitats and their soil structure, particularly the ancient woodland remnants of the Forest of Bere and coastal salt marsh.*
8. *Protects wildlife habitats and wildlife corridors to prevent the fragmentation of existing habitats and to allow species, for example Brent Geese, to respond to the impacts of climate change by making provision for habitat adaptation e.g. coastal managed realignment and species migration.*
9. *Maintains undeveloped gaps between the settlements of Emsworth/Havant; Havant/Waterlooville; Havant/Portsmouth; Emsworth/Westbourne and Leigh Park/Rowlands Castle as shown on the Proposals Map.*
10. *Protects the best and most versatile agricultural land that has the greatest potential for local food security.*
11. *Responds to the emerging evidence from the Solent Disturbance and Mitigation Project, the published recommendations, and future related research*

4.0 ROLES AND RESPONSIBILITIES

4.1 CONSTRUCTION ROLES AND RESPONSIBILITIES

The EMMP will be distributed to all relevant personnel involved with the construction phase of the development including Metis Homes and any contractors who may be working on the site. It will be the responsibility of the main contractor (Metis Homes) to distribute this document (where relevant) to all other contractors, sub-contractors and visitors to the site as appropriate, who will in turn be bound by the terms therein.

An ECoW is a competent Ecologist (to be appointed by Metis Homes) who will provide advice to the construction teams during all phases of the scheme on all pertinent ecological issues and to check that the ecological protection and mitigation measures, as specified in this document, are implemented.

The ECoW will have specific responsibilities which will include:

- Deliver an initial toolbox talk to introduce site staff to this document and describe the protected species that may be encountered on site, and the protection measures required;
- Provision of advice on the location of protected species e.g., reptiles and the type and location of protection or mitigation required;
- To supervise and monitor the implementation and maintenance of protective or mitigation measures in accordance with legal requirements or the terms set out in this document;
- Liaison with the main contractor's site manager and others relevant stakeholders as appropriate; and
- Monitoring of the created and retained habitats on site.

Specific responsibilities of the client, Metis Homes, in relation to this EMMP will include:

- Ensuring that the contractors employed are suitably qualified and experienced to undertake the habitat creation works, whilst maintaining the ecological value of the site;
- Providing to the contractor, all information required to allow them to carry out appropriate habitat and landscape management during the construction phase. This includes any updated versions of this EMMP and other related management plans, which will be circulated as soon as possible after being received;
- Adhering to the relevant provisions made within this document;
- Complying with the advice of the ECoW;
- Ensuring that this EMMP is distributed to all relevant parties; and
- Ensuring that all persons working within the area covered by this EMMP are briefed on relevant aspects. Once the initial toolbox talk has taken place (prior to works commencing on the site), briefing notes will be left on site for future visitors / contractors.

4.2 POST-CONSTRUCTION ROLES AND RESPONSIBILITIES

Post-construction management will be the responsibility of Metis Homes or an appointed management agent.

All habitat creation measure outlined within this EMMP will be maintained in perpetuity by Metis Homes or the appointed management agent.

5.0 CONSTRUCTION PHASE MITIGATION

5.1 PROTECTED SPECIES

The indicative locations of all proposed mitigation and enhancement features for protected species can be seen in Figure 3.

5.1.1 Reptiles

To mitigate for potential impacts to the low population of slow worms *Anguis fragilis* and a good population of common lizards *Zootoca vivipara* on site, a method of reptile displacement and supervised habitat clearance have been recommended.

Toolbox Talk

A toolbox talk should be given to all contractors working on the site prior to the onset of works. The talk is to include the protection of reptiles, what to do if a reptile is found, the reasons for the staged clearance and the areas to avoid directly disturbing during the development. A plan will be supplied to the contractors on site, illustrating the areas of retained habitat outside of the construction footprint where reptiles can be moved too in the absence of an ECoW on site.

Exclusion Fencing

Specialist fencing has been recommended in the Reptile Presence/Likely Absence Report (WYG, 2021) in order to exclude reptiles from the construction site. The fence should be erected around the perimeter of the construction zone and must be in place prior to any building or ground clearance. The finalised route for fencing will be agreed upon by all parties prior to construction.

The fence will be a minimum of 500 mm tall and 300 mm below ground. The backfill will be placed vegetation side down to suppress re-growth. The fence will have a top curl to prevent reptiles from climbing over and posts will be placed on the development area side of the fence. The areas where fencing is to be installed will be hand searched for reptiles by the prior to installation of the fence to safeguard reptiles during this operation.

Where vehicular access is required into the site, the access gap is to be as small as reasonably possible (to allow required machinery through), and heavy-duty plastic flaps installed, which can deform under vehicles, and then spring back up once the vehicle has passed (English Nature, 2001). These are to be flush with the fencing either side, or the fencing itself turned back 45°, for a couple of metres along the 'road' so that reptiles are deflected away from the access point.

Reptile Displacement

It is recommended that displacement works are undertaken between March and October in suitable weather conditions. Reptile felts will be placed within the construction site at a density of 100 per Ha (at least 44) to aid the removal of reptiles prior to vegetation clearance. An Ecological Clerks of Works (ECoW) will supervise the strimming of grassland, tall ruderal vegetation and scrub to a height no greater than 150 mm, following which a fingertip search will be undertaken to check for reptiles. If any reptiles are found they will be translocated to the hedgerow boundaries, outside of the construction zone, and placed into a hibernaculum to protect them from immediate predation (enhancement details of hibernaculum can be found in Section 6.1.1). It is recommended displacement works are completed on the site and the receptor site for the translocated turf discussed in Section 5.2.2.

Destructive Search

Following the successful completion of the displacement of reptiles from the areas of suitable habitat, a targeted destructive search of these areas will be completed. This will involve two stages, a hand search and then a mechanical search, completed to the following specifications:

- A suitably qualified ecologist will supervise all aspects of the destructive search;
- Hand searches will be conducted, including the removal of debris on the ground in order to remove potential refuges including rubble and wood piles, and of any vegetation piles;
- Using a medium sized excavator (approximately 8-10 tonnes) with a toothed bucket carry out a gradual scrape of the top one to two inches (25 - 50 mm) of topsoil where appropriate;
- Both the areas from where soil is removed and the subsequent spoil heaps should be checked for reptiles and amphibians;
- Carry out deeper scrapes where necessary, such as beneath root systems, buried material, cracks or holes in the ground;
- The excavated spoil will be stored as directed by the ECOW, in consultation with the developers, in an area identified as unsuitable as reptile habitat.

Habitat Management

It is recommended that any areas of grassland which are currently mown or grazed should continue to be so. This will reduce the likelihood future establishment of a reptile population in these areas through maintenance as areas of unsuitable reptile habitat and thus avoid potential impacts during the construction phase of the development.

5.1.2 Nesting Birds

The site has been assessed as having moderate suitability for breeding birds (WYG, 2021). The species-rich hedgerows are to be retained and protected as part of the proposed development. The only works with the potential to have an adverse effect on breeding birds are the creation of a site access in the northern species-poor hedgerow. This habitat has the potential to support nesting birds, which are protected from disturbance under the W&CA.

It is recommended that any vegetation clearance works are undertaken outside of nesting bird season (February – October inclusive) in order to avoid unnecessary impacts to nesting birds. If this is not possible then the habitats listed above will need to be inspected for the presence of active nests by an ECoW no more than 24 hours prior to clearance. If nesting birds are found then a buffer zone is to be erected around the nest, no contractors or site works are permitted in this zone until it can be determined by the ECoW that the young have fledged. The minimum size of the buffer zone is 5 m but this is species dependent and can incorporate a larger area. The ECoW will determine the extent of the buffer zone if a nest is discovered.

5.1.3 Bats

Two mature trees and one dead tree have been identified with low bat roosting suitability (WYG, 2021). The site has also been assessed as having moderate suitability for foraging and commuting bats. The main habitats suitable for bats are to be retained as part of the development; the mature trees and species-rich hedgerows. There will be a loss of potential foraging habitat in the form of semi-improved grassland, however the majority of bats identified in the desk study are known to utilise residential gardens for foraging, therefore this is not anticipated to be a significant adverse effect. Measures outlined below detail how any likely impacts to bats from the proposals will be mitigated.

Lighting Scheme

The Institution of Lighting Professionals (ILP) states that the impacts from artificial lighting on bats are likely to have significant impacts on some species, potentially affecting reproductive, foraging and roosting opportunities (ILP, 2018).

It is recommended that lighting on the development site comprise LED lamps, with a low colour correlated temperature – preferably below 3500K (warm white). Lighting should be directed groundward to avoid light spillage, the height and positioning of lighting columns will be carefully considered and street level lighting and bollards will be used where appropriate to minimize upward light spill. Hoods and / or cowls will be used to prevent 'reverse' light spill onto retained habitat features ensuring that only the required areas are illuminated.

Use of appropriate building materials

The use of Modern Roofing Membranes (MRMs) in the proposed new-build homes should be considered. Research by Waring *et al.* (2013) found that many roofing membranes pose a risk to bats. This was due to bats becoming trapped in loose fibres that are freed as membranes degrade and by the action of bats using them for roosting. Trapped bats are then unable to escape and will dehydrate and starve to death. As well as posing a risk to bats, many roofing membranes were also found to be damaged by bats, impairing their efficiency. In their research, these membranes were referred to as Breathable Roofing Membranes (BRM). Since this research was published, several other membrane types are available on the market, including MRM.

In the latest advice from the Bat Conservation Trust (2022), the terminology has been changed from BRM to 'Non-Bitumen-Coated Roofing Membranes' so that all potentially hazardous materials are included. However, the guidance is unchanged, and the use of Non-Bitumen-Coated Roofing Membranes/BR should be avoided. Instead, it is recommended although not required that Type 1F bitumen and hessian under-felt should be considered as an alternative.

5.1.4 Hazel Dormouse

The site has been assessed as having low suitability for dormice (WYG, 2021). Although it is considered unlikely that hazel dormice are present on site, it is recommended that hedgerow removal for the site access is completed under a precautionary working method statement to avoid adverse effects to dormice, or an offence under the Habitats Regulations.

5.2 HABITATS

5.2.1 Tree and Hedgerow Protection

The species rich hedgerows and trees on site shall be retained and protected during construction through the use of protection fencing in accordance with *BS5837:2012 – Tree in Relation to Design, Demolition and Construction* (BSI Group, 2013). No construction activities, material or plant storage are permitted within the fenced area to protect the habitats and their root protection zones. The fences will be regularly checked and maintained to ensure their integrity. The fencing layout is set out in the tree protection plan (LC-S-005) by Metis Homes (2022).

Additionally, the north-eastern corner of the site, which currently features an access gate, shall be infilled with native woody species to compensate for the loss of species-poor hedgerow on site.

5.2.2 Transplantation of Turf

It is proposed that turf from the site, which retains qualities of unimproved grassland, shall be transplanted into the area of tall ruderal vegetation on the adjacent meadow. This should create a large area of unimproved grassland to the north of the meadow which, with effective management, could provide high quality grassland of value to nature conservation.

The approved Long Copse Lane Management Plan (WYG, 2020) has been included within Condition 9 of planning consent APP/21/01376 Havant Borough Council. Table 2 below sets out the specific timings of the works for the turf translocation and future management of the meadow following the translocation works. Required works are indicated on the Meadow Management Plan in Appendix B.

Annual monitoring of the adjacent meadow will be completed annual for the first five years post translocation. A summary letter report will be provided to the LPA detailing the results of the monitoring survey and if any remedial works are required. Following the first five years monitoring a monitoring survey will then be completed every 5th year to cover the timings of this management plan (30 years).

Table 2: Monitoring and Management of Meadow

Activity	Pre-construction	Post turve translocation	Post turve translocation Year										
			1	2	3	4	5	6	7	8	9	10	Ongoing
Create vehicle access through hedge at the existing dead tree	July 2022												
Create new informal path around NW edge of areas with turves to be transplanted by cutting back vegetation.	July 2022												
Tall ruderal vegetation and scrub within transplant area to be removed in preparation for turves to be translocated.	July 2022												
Grass will be cut in SINC prior to turve translocation.	July 2022												
Temporary barrier tape / fences and signs installed to indicate no access to the area of transplanted turves.	July 2022												
Turves in SINC to be cut as large as practical (c. 2-2.5 m× 1-1.5 m) using specialist turve removal excavator with a turf cutting bucket attached, at a depth of 200–300 mm and transported as a single layer on a flatbed trailer. Turves will be re-laid as soon as they have been removed by a similar machine onto the existing soil and gently firmed onto the substrate. They can be manually adjusted if needed with a spade and any gaps filled with similar subsoil to achieve a flat ground surface. They should be rolled after they have been laid to ensure	July 2022												

Activity	Pre-construction	Post turve translocation	Post turve translocation Year										
			1	2	3	4	5	6	7	8	9	10	Ongoing
contact with sub-soil and to remove air gaps.													
Replant access gap in hedge.		Spring and Summer											
Turves to be checked and gaps refilled due to settlement every three months.													
Spot herbicide treatment of any weeds (such as brambles and creeping thistle) will be required.		Spring and Summer											
Meadow grassland will be cut three times in the first year and the cuttings removed.													
Once turves established, the fencing can be removed.													
Monitor transplanted turves and initiate remedial actions if needed.													
Spot herbicide treatment of the injurious weed creeping thistle <i>Cirsium arvense</i> and other invasive weeds should be carried out annually until they are eliminated from the existing grassland present within the adjacent meadow.													
Turf to be managed as part of the adjacent unimproved neutral grassland and cut annually for hay.													
Scrub management on the southern area of the adjacent meadow (Figure 4) will be managed on a rotational basis cutting a third of the scrub every fifth year to provide a 15 years rotational management interval. The first third will													Year 15 then then continue rotational scheme as detailed

Activity	Pre-construction	Post turve translocation	Post turve translocation Year										Ongoing
			1	2	3	4	5	6	7	8	9	10	
be cut in year 5, the second third will be cut in year 10 and the final third will be cut in year 15. The scrub management will then continue on the same rotational basis.													every fifth year
Informal paths within the scrub areas will be cut to 2 m wide to maintain public access.													
<i>Northern boundary hedge within the adjacent meadow will be maintained. Wooden stakes will be placed at 10 m intervals protruding 0.5 m above ground level and any scrub encroaching will be removed as part of the scrub management.</i>													
<i>Annual monitoring of the adjacent meadow following the turf translocation will be completed.</i>													Every fifth year until year 30

6.0 ENHANCEMENT MEASURES

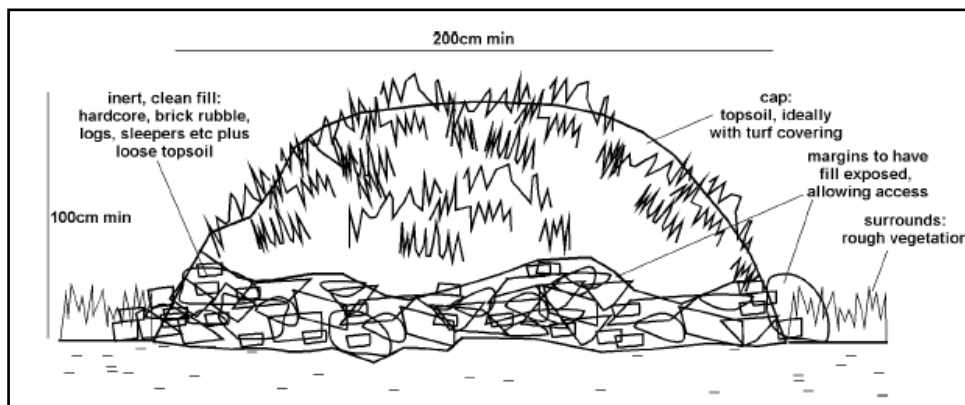
6.1.1 Reptiles

Hibernacula

An over-wintering location (hibernacula) for reptiles is to be constructed in the retained areas grassland buffer to the east of the site. This will enhance the habitat available to reptiles within the site and is well connected to the adjoining meadows.

The design of the hibernacula will follow that set out in the Great Crested Newt Mitigation Guidelines (English Nature, 2001 – Plate 1 below) and will include the use of logs and loose topsoil, with a covering of turf. Materials for the hibernacula will be sourced from the surrounding cleared hedgerow areas, and the turf required to top them will be obtained from the area beneath the hibernacula itself. The hibernacula are circa 1 x 2 m in diameter and circa 0.5 m in height and will be built prior to site clearance.

Drawing 1: Hibernacula Design Taken from the Great Crested Guidelines, 2001



6.1.2 Nesting Birds

A section of species-poor hedgerow is to be removed as part of the site access. To compensate for the loss of nesting habitat, two bird boxes shall be erected on suitable trees along the site boundaries.

- Boxes should be fixed two to four metres up trees;
- Unless there are trees which shade the box during the day, face the box between north and east, thus avoiding strong sunlight and the wettest winds; and
- Make sure that the birds have a clear flight path to the nest without any clutter directly in front of the entrance. Tilt the box forward slightly so that any driving rain will hit the roof and bounce clear.

6.1.3 Bats

To enhance the roosting suitability of the site for bats, two Schwegler 2FR bat tubes (or similar) should be installed into two of the new properties. In addition, one Schwegler 2FN bat box (or similar) is to be installed on mature trees within the retained boundary habitat. This will be placed facing retained boundary features, away from artificial light sources, at a height of around 4 m and south-west/east facing.

The box/tubes recommended differ in their material construction and design thereby facilitating the needs of a range of bat species.

6.1.4 Additional Species Enhancements

Invertebrates

The transplanted turf/grassland habitat are to be managed to encourage the floristic qualities of unimproved grassland which will provide an improved foraging resource for pollinators. The hibernaculum created for reptiles will contain logs and other dead wood, which provide additional habitat for saproxylic invertebrates.

Hedgehogs

To enhance the site for hedgehog, gravel boards / hedgehog 'highways' are to be incorporated into the fences of the gardens of the new units. A small hole is to be created at the base of fences between adjoining gardens and fences which are adjacent to retained green space, this will allow hedgehogs to move through and forage in gardens across the site. Examples of this feature can be seen in Plates 1 and 2 below.



Plate 1 – Example of a hedgehog highway



Plate 2 – Example of a hedgehog highway

7.0 REFERENCES

- Bat Conservation Trust, (2022) Things to consider when planning works: roofing membranes. Available at: <https://www.bats.org.uk/advice/im-working-on-a-building-with-bats/things-to-consider-when-planning-works/roofing-membranes>, Accessed February 2022.
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FIGURES

Figure 1 – Site Location Plan

Figure 2 – Phase 1 Habitat Map

Figure 3 – Enhancement Map



Site Location Plan

Long Copse Lane

Metis Homes



Legend

Site boundary

Notes:

Drawn by: SB
Checked by: HK
Office: Southampton

Figure No. 1
Revision No. A

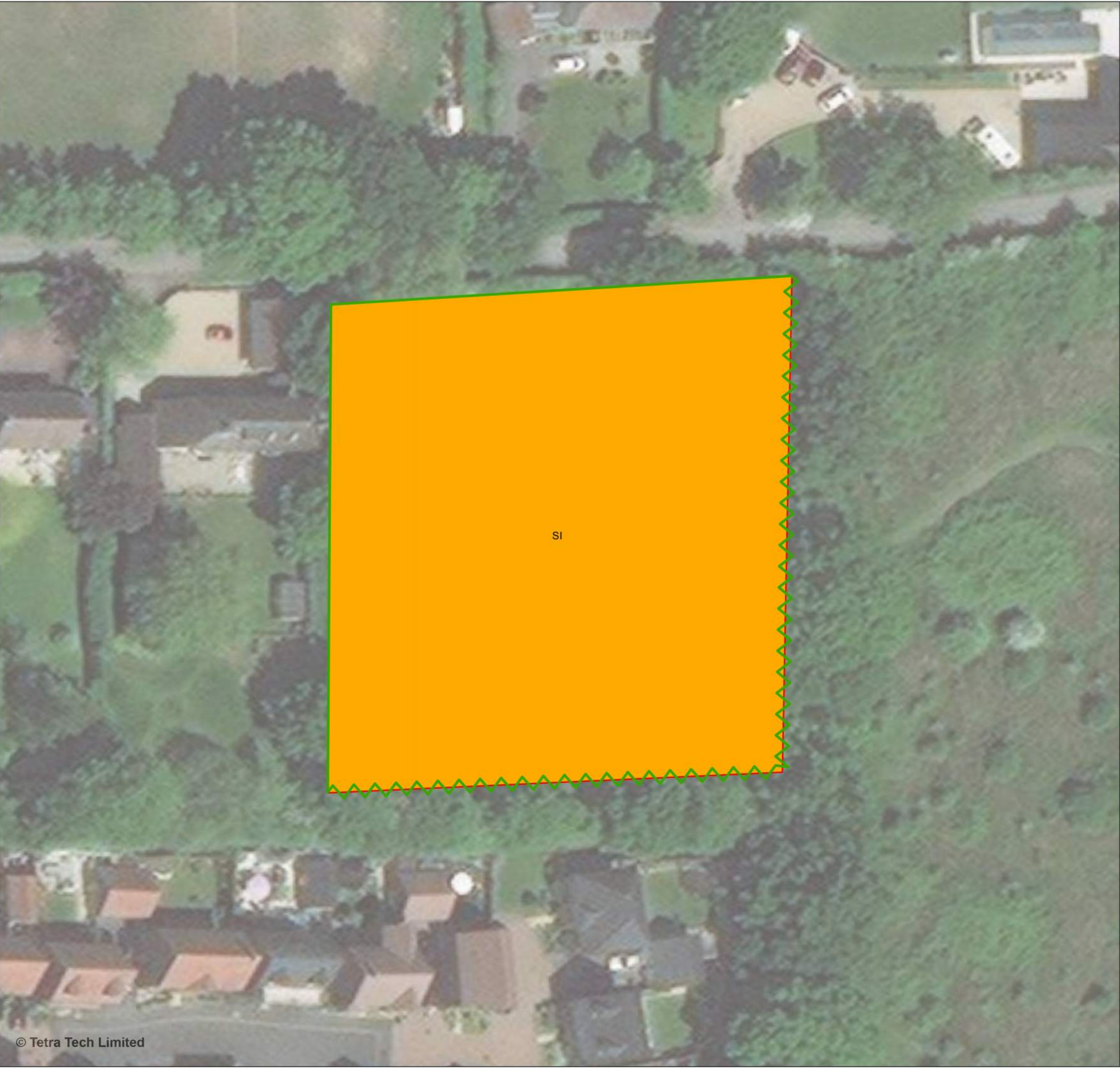
0 10 20 30 Meters
Scale 1:1,000 @A3

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Phase 1 Habitat Plan

Long Copse Lane

Metis Homes



Legend

-  Site boundary
-  SI Neutral semi-improved grassland
-  Species-rich hedgerow with trees
-  Species-poor hedgerow

Notes:

Drawn by: SB
Checked by: HK
Office: Southampton

Figure No. 2
Revision No. A

0 5 10 15 Meters
Scale 1:500 @A3

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Enhancement Plan

Long Copse Lane

Metis Homes



Legend

- Site boundary
- ★ Hibernacula
- ★ Bird boxes
- ★ Bat Box

Notes:

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Office: Southampton

Figure No. 3
Revision No. A

0 5 10 15 Meters
Scale 1:500 @A3

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APPENDIX B – MEADOW MANAGEMENT PLAN

