HAZEL DORMOUSE SURVEY REPORT

OPTION TWO DEVELOPMENT LTD

LAND AT COURTHOUSE FARM

COPTHORNE COMMON ROAD, COPTHORNE, WEST SUSSEX

REF: 5096-LLB-XX-XX-T-EC-0002

STATUS: **PLANNING**

DOCUMENT ISSUED: 29/10/2025

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Revisions:

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EXECUTIVE SUMMARY

S.1 A hazel dormouse presence / likely absence survey of land at Courthouse Farm, south of Copthorne Common Road, Copthorne, West Sussex was undertaken between July and August 2025 (inclusive).

S.2 One occupied hazel dormouse nest was recorded within suitable habitat within the Site.

S.3 Hazel dormouse footprints were also recorded within one footprint tunnel.

S.4 Hazel dormouse presence was confirmed and therefore, all suitable habitat present within the Site is assumed to be occupied by the species.

S.5 The Site is assessed as being of 'local' importance for hazel dormice.

S.6 In the absence of appropriate avoidance, mitigation and compensation measures, the proposed development would result in adverse impacts upon the local hazel dormouse population through the removal of suitable, occupied hazel dormouse habitat.

S.7 Appropriate avoidance, mitigation and compensation measures have been devised and will need to be implemented for hazel dormice.

S.8 Given the scale of the impacts, it is considered proportionate that a Precautionary Working Method Statement can be adopted in relation to hazel dormice. If the development proposals significantly change and the extent of impacts significantly increase a hazel dormouse European Protected Species Mitigation (EPSM) licence will need to be obtained from Natural England to facilitate development. The EPSM licence can only be applied for once planning permission has been granted and all relevant, ecology-related planning conditions have been discharged.

S.9 The associated Ecological Impact Assessment report also considers whether the proposed works are likely to adversely or positively affect the 'Favourable Conservation Status' of the local hazel dormouse population.

1. INTRODUCTION

1.1 Lloydbore Ltd were instructed to undertake a hazel dormouse (*Muscardinus avellanarius*) presence / likely absence survey of land at Courthouse Farm, south of Copthorne Common Road, Copthorne, West Sussex (approximate grid reference: TQ 32406 39008), henceforth referred to as the 'Site'.

1.2 The Site is located south of the village of Copthorne, adjacent to Copthorne Golf Club, bounded by tree lines with woodland present to the south and east. The wider surrounding landscape is primarily woodland and enclosed grassland fields with the M23 and Crawley present to the west. See Site Location Plan overleaf.

1.3 The survey was commissioned in light of recommendations provided following the '*Preliminary Ecological Appraisal'* during which suitable habitat for hazel dormice was recorded within the Site (Lloydbore Ltd, 2024).

1.4 There are currently two development options for the site comprising either residential development of 86 new homes or an extra care scheme of 101 dwellings, both with associated landscaping within the redline boundary. As a result, the proposed development has potential to result in the damage, destruction and/or removal of suitable for hazel dormouse and impacts to individual animals (e.g. killing and/or injury during site works).

1.5 Further survey and assessment is required to assess the level of risk posed to hazel dormice as a result of the proposed development.

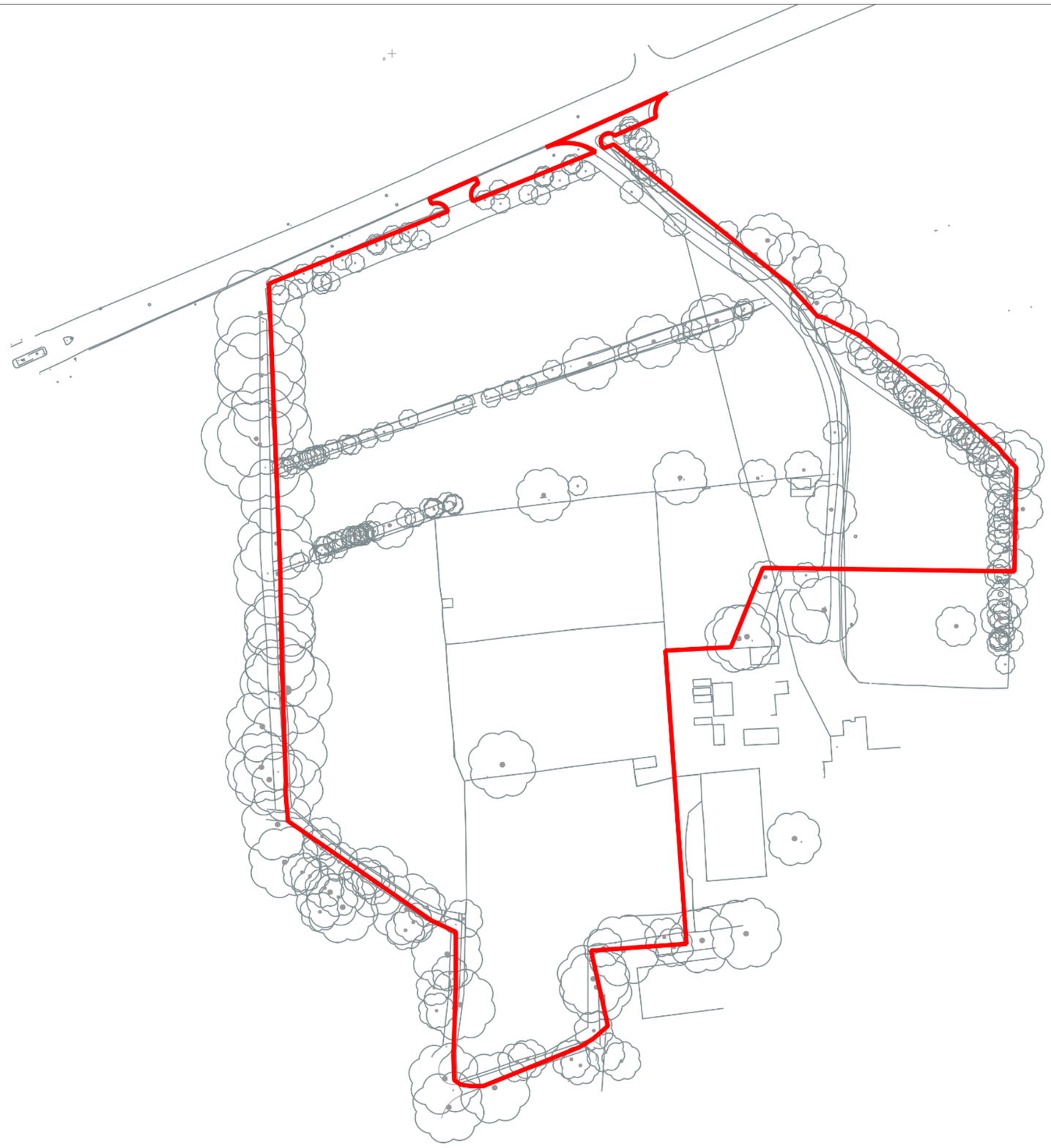
SURVEY OBJECTIVES

1.6 The objectives of the survey and report are to: -

- Assess the suitability of on-site habitats and boundary habitats for hazel dormouse;
- Identify whether hazel dormice are present within on-site habitats and boundary habitats;
- If hazel dormice are present, assess the importance of on-site habitats and boundary habitats for hazel dormice;
- Determine whether avoidance, mitigation and/or compensation measures are required with regards to hazel dormouse; and
- Confirm whether a hazel dormouse European Protected Species Mitigation (EPSM) licence will need to be obtained from Natural England (the Statutory Nature Conservation Organisation for England) to facilitate the proposed works.

SUMMARY OF RELEVANT LEGISLATION

1.7 The Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended) afford legal protection to hazel dormice. Further details on this legislation can be found in Appendix 1.



Legend:

Red line boundary
Total area approx: 4.3647 ha.

0 15 30
1:1500

client. ***Option Two Development Ltd***
project. ***Land at Courthouse Farm***
Copthorne Common Road
Copthorne, West Sussex

drawing no. ***5096-LLB-RF-0027***
drawing title. ***Site Location Plan***
title 2.
title 3.

scale. ***1:1500***
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author. ***VG***
checked. ***CC***

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2. METHODS

2.1 Hazel dormouse surveys are undertaken to assess the level of risk posed to hazel dormice as a result of the proposed development particularly focussing on whether the scheme has potential to result in the damage / destruction / removal of suitable habitat for hazel dormouse and impacts upon individual hazel dormice (e.g. killing and/or injury during site works). .

2.2 The Dormouse Conservation Handbook and Mitigation Handbook (Bullion *et al*., 2025; Well et al., 2025) and associated guidelines are used to: -

- Assess the suitability of on-site and adjacent habitats for hazel dormouse;
- Inform the scope of survey works required to determine presence / likely absence of hazel dormouse;
- If hazel dormice are present, estimate the density of dormice present within on-site habitats; and
- If hazel dormice are present, assess the importance of on-site habitats and boundary habitats for hazel dormice.

2.3 Natural England's standing advice, which is a material consideration at planning, also provides details on survey methodology and how the implementation of mitigation measures, such as using recognised techniques at the appropriate time of year, can reduce the scope of survey work required (Natural England, 2022).

DESK STUDY

SCOPE

2.4 Hazel dormice live at relatively low densities and habitat quality significantly influences dormouse density. Dormouse density ranges from two per hectare for habitats considered to be of poor quality and ten per hectare for excellent quality habitat (Wells, et al., (2025).

2.5 Hazel dormouse dispersal distances directly correlate with the extent, diversity and connectivity of suitable habitat within their environment and the average dispersal distances range from 10m to 500m (Juškaitis, 1997; Wells et al., 2025).

2.6 The likelihood of hazel dormice occupying suitable habitat within the environment is also influenced by the presence of barriers to dispersal, which would result in hazel dormice, an arboreal species, having to traverse across the ground to disperse which increases predation risk. Railways, watercourses and major roads such as motorways and highways (greater than 12m wide) are considered to be significant barriers to hazel dormouse dispersal (Wells et al., 2025).

2.7 Minor gaps, less than 10m wide do not constitute a barrier to dormouse dispersal and dormice are known to cross moderate size gaps of between 10-30m over bare ground or mown grassland or 100m over unmown grassland (Chanin and Gubert, 2012; Wells et al., 2025).

2.8 Studies on the significance of barriers for movement have variable results, with some suggesting gaps greater than 30m constitute a barrier to dispersal (Bright and Morris, 1991; Kelm, *et al*, 2015; Friebe *et al*., 2018; Wells et al., 2025).

2.9 Nocturnal traffic densities on minor and medium roads are generally lower and thus the collision risk between hazel dormice and vehicles is less than that of busier and wider motorways and highways (Kelm *et al*., 2015).

2.10 Given all of the above, the desk study should comprise the analysis and evaluation of biological records, habitat connectivity and a review of barriers to dispersal.

DESK STUDY METHOD

2.11 A biological records search was undertaken by Sussex Biodiversity Record Centre (SxBRC) in June 2025 to inform the *Ecological Impact Assessment (EcIA)* (Lloydbore Ltd, 2025). The data set obtained through this search includes records of protected and priority species, such as hazel dormouse. A 1km search radius was used.

2.12 Biological records obtained within the ten-year period prior to the date of the record search are considered 'recent'. Records older than this are considered 'historic'.

2.13 Natural England's Multi Agency Geographic Information for the Countryside (MAGIC) interactive mapping software was used to search for granted hazel dormouse EPSM licences located within a 5km radius of the application site boundary.

2.14 The desk study search radii cover a greater area than the average dispersal range for hazel dormice to ensure that multiple home ranges of hazel dormouse are covered given the species live at such low densities.

2.15 Aerial imagery and mapping software were used to assess the connectivity of on-site habitats to any wider network of hedgerows, woodland and other habitats that are, or may be, suitable for hazel dormouse.

HABITAT ASSESSMENT

SCOPE

2.16 Dormice live in a wide range of common woody habitats which include broadleaf woodland, coniferous woodland plantation, scrub, linear planted woodland and scrub and hedgerows (Wells et al., 2025).

2.17 Assessing the suitability of habitats for hazel dormice depends on a number of factors which include:

- Species diversity and suitability for dormice;
- Structural complexity of habitat (extent of canopy versus understorey);
- Abundance and distribution of bramble or other low-lying thicket;
- Nature of habitat management, if any;
- Size and distribution of habitat fragments;
- Presence of gaps in corridors; and
- Presence of barriers to movement; nature and extent of connectivity to habitat off-site.

2.18 Wells, et al., (2025) have devised a quality assessment for hazel dormouse habitat which directly relates to species diversity and structural complexity. Habitats are assessed as being of low, medium of high diversity and complexity. Criteria for assessing species diversity and structural complexity are provided in Appendix 2.

2.19 Species diversity relates to the range of species of benefit likely to be encountered within a typical hazel dormouse home range within the habitat (Wells, et al., 2025).

2.20 The overall habitat quality assessment for each habitat is calculated following the assessment of species diversity and structural complexity for each habitat (see Appendix 2).

Table 1 The relationship between species diversity, structural complexity and habitat quality.

		Diversity		
		High	**Medium**	**Low**
Complexity	**High**	Excellent	Good	Fair
	Medium	Good	Good	Poor
	Low	Fair	Poor	Poor

HABITAT ASSESSMENT METHOD

2.21 An initial habitat assessment was undertaken by Lloydbore Ltd surveyors during the initial Preliminary Ecological Appraisal (Lloydbore Ltd, 2019).

2.22 An update site walkover was undertaken by Charlotte Clements BSc in June 2025.

2.23 Charlotte is an Associate Member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and has over 10 years' experience of habitat survey and ecological appraisal.

HAZEL DORMOUSE SURVEY

SCOPE

2.24 Hazel dormice are usually active between April and November (inclusive), dependent on the prevailing weather conditions.

2.25 Surveys are undertaken within suitable dormouse habitat in order to detect evidence of hazel dormouse presence or reach a conclusion of likely absence.

2.26 Surveys must be undertaken in accordance with good practice guidelines, and a minimum survey effort is required in order to achieve a greater than 95% probability of detecting dormice if they are present within different habitats (Wells, et al., 2025).

2.27 If fruiting hazel is present within the survey area, nut searches can be undertaken in addition to nest tube and footprint tunnel surveys.

2.28 If evidence of hazel dormice is recorded during a survey, no further surveying is required. Once hazel dormouse presence has been confirmed it must be assumed that all hazel dormouse habitat present on-site is occupied (unless completely isolated due to the presence of barriers to dispersal).

Nest tube surveys

2.29 Dormice will readily use nest tubes for nest building and/or shelter.

2.30 The structure of a 'typical' hazel dormouse nest comprises a tightly woven central structure encased within green leaves.

2.31 Wood mouse (*Apodemus sylvaticus*) and yellow-necked mouse (*A. flavicollis*) nests comprise a loose mass of dead brown leaves that are not woven, lack a 'roof' and become fragmented and untidy over time (Bright *et al*., 2006).

2.32 Evidence of use by other small mammals, such as wood mouse or yellow-necked mouse, shrews (*Sorex sp*.) and/or birds should also be recorded, and any nest tube occupancy by these species was considered when assessing the detectability of hazel dormice.

2.33 Nest tubes comprise an open-ended rectangle of plastic with a wooden slat/insert that sits within the plastic outer shell.

2.34 Nest tubes are affixed to horizontal or near-horizontal branches of woody vegetation within areas of suitable dormouse habitat, spaced between 15-20m and cover as large a proportion of the available habitat as possible. For very small sites spacing can be reduced to a minimum of 10m apart.

2.35 Surveyors should search each tube for signs of hazel dormouse occupancy, which include hazel dormice and/or their nests on a monthly basis and the minimum survey effort number of survey visits required

2.36 Good practice guidelines stipulates a minimum nest tube survey effort which directly relates to habitat quality:

- Fair or Poor quality - 100 nest tubes
- Good or Excellent quality - 50 nest tubes.

2.37 For habitats of fair of poor quality, surveys must be undertaken over the course of a full survey season from April / May to November (inclusive). Habitat of good or excellent quality has a reduced survey effort and durations are shown in Table 2.

Table 2 Minimum nest tube survey effort required for good or excellent quality habitat.

Tubes installed (first day of month ± days)	Number of checks at monthly intervals	End date (end of month ±7 days)
April	6	September
May	5	
June	4	
July	3	
August	3	October
September	3	November
October	9*	September, following year
*Assumes checks at end of October and November then from April onwards.		

Footprint tunnel surveys

2.38 Hazel dormice have triangular-shaped palm pads which are distinctive from other rodent species and as such footprint tunnels can be used to gather non-intrusive evidence of hazel dormouse with a high percentage of certainty over species identification (Bullion, et al., 2025).

2.39 Footprint tunnels comprise an open-ended rectangle of plastic with a wooden slat that sits within the plastic outer shell. A strip of white 'tracking' card (250gsm/350 microns) is attached to the wooden

insert and a tracking medium comprising pharmaceutical-grade activated charcoal powder and olive oil applied to masking tape affixed to each end of the card (Bullion et al., 2025).

2.40 Footprint tunnels should be installed between 15 and 20m apart in linear habitat and more than 75m apart in a grid format in area habitat such as woodland (Wells et al., 2025). For small sites inter-spacing can be reduced to 10m where there is no reasonable alternative (minimum area c 0.5 ha; minimum length 500 m) (Wells et al., 2025).

2.41 Similarly to nest tube surveys, the habitat quality influences whether footprint tunnels are required. For habitats of good or excellent quality footprint tunnels do not need to be used. For habitats of fair of poor quality, surveys should use between 25 and 50 footprint tunnels.

2.42 Footprint tunnel surveys should be undertaken between May and October (inclusive) for the minimum time frames shown in Table 3.

Table 3 Footprint tunnel survey durations for fair and poor quality habitats to achieve 97.5% probability of detection. (Wells, et al., 2025)

Number of footprint tunnels	Duration of survey
45 -50	3 months
35-40	4 months
25-30	5 months

2.43 Footprint tunnels must be checked at least twice a month for ink pads to be replaced. Because of neophobia, tunnels should be deployed two weeks prior to beginning surveys. Tracking ink is optional during this period (Bullion et al. 2021).

Population assessment

2.44 The purpose of the survey methods listed above are to assess the quality of habitats suitability for hazel dormouse and detect presence of dormice, if present.

2.45 Given the above, the exact number of hazel dormice using on-site habitats cannot be determined from survey results alone and in accordance with standard practice guidelines, dormouse density (number of breeding adults) for hedgerow and woodland and scrub habitats is estimated through habitat quality (see Table 4).

Table 4 Estimating density of dormice - Numbers of breeding adults; (per km of hedgerow and per ha of woodland or scrub). (Wells, et al., 2025)

	Habitat Type	
Habitat quality	Hedgerow	Woodland/scrub
Excellent	8	10
Good	5	6
Fair	3	4
Poor	1	2

SURVEY METHOD

2.46 60 nest tubes and 50 footprint tunnels were affixed to horizontal or near-horizontal branches of woody vegetation within areas of suitable dormouse habitat present within the Site. The hazel

dormouse nest tubes and footprint tunnels were set out on 24th May 2025 and 2nd July 2025, respectively by Lloydbore Ltd surveyors. The exact locations in which the nest tubes and footprint tunnels were placed are included within Appendix 3.

2.47 Survey visits were led by Victoria Groves (class survey licence number: 2017-32572-CLS-CLS). Victoria Groves has over 7.5 years of hazel dormouse survey experience. Lloydbore Ltd surveyors assisted with the survey visits.

2.48 Details of survey visits are shown in Table 5 below.

Table 5 Survey details.

Date	Surveyors	Time	Weather	Survey method
16/07/2025	Victoria Groves Matthew Franklin	09:10 / 14:45	18°C - 22°C, 8 cloud cover, dry, moderate breeze	Nest tube and footprint tunnel survey
06/08/2025	Victoria Groves Matthew Franklin	13:28/ 16:30	23°C, 2 cloud cover, dry, light air	Footprint tunnel survey
20/08/2025	Victoria Groves Nikki Stapleton-Farr	09:26 / 13:00	17.5, 8 cloud cover, damp, Light air	Nest tube and footprint tunnel survey

2.49 Surveyors used telescopic mirrors to check for presence of hazel dormice. Surveyors used a stuffer to temporarily block the entrance to the nest tube if field signs were recorded within the tube.

2.50 The nest tube was then removed from the vegetation and placed within a large polythene bag for processing. Evidence of presence of hazel dormice or other species was recorded. On completion of processing, the nest tubes were reinstated to its' original position.

2.51 Surveyors collected the tracking cards after each footprint tunnel survey for analysis and new tracking cards with ink medium were installed in each footprint tunnel.

ASSESSING IMPORTANCE

2.52 The assessment of the importance of on-site habitats for hazel dormice is informed by guidance set out in *'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine'* (CIEEM, 2024) and thresholds for 'county' level importance derived from *'Local Wildlife Sites in Kent: Criteria for Selection and Delineation'* (Kent Wildlife Trust, 2022).

ZONE OF INFLUENCE

2.53 The potential impact(s) of a development are not always limited to the boundaries of the site concerned. A development may also have the potential to result in impacts upon ecologically important sites, habitats or species that are located beyond the site boundaries.

2.54 The area over which a development may impact ecologically important features is known as the Zone of Influence (ZoI).

2.55 The ZoI is determined by the source/type of impact, the potential pathway(s) for that impact and the location and sensitivity of the ecologically important feature(s) beyond the boundary.

2.56 The potential ZoI of a project in relation to hazel dormice is used to determine the extent of the dormouse survey study area.

2.57 The development proposals will likely result in the removal of small sections of suitable hazel dormouse habitat and may result in direct impacts to individual animals (e.g., killing and/or injury during site works) if present within the Site.

2.58 These potential impacts could adversely affect the favourable conservation status of the wider local hazel dormouse population, but the most significant potential adverse effects would likely be experienced by any hazel dormice present on-site.

2.59 Therefore, in the absence of appropriate avoidance, mitigation and compensation measures, the potential ZoI of the application, in relation to hazel dormouse (if present), is likely to extend to the Site and those areas of connected habitat located just beyond the Site boundary.

2.60 This ZoI was used to establish the required extent of the hazel dormouse presence / likely absence survey, which included all suitable on-site habitat.

LIMITATIONS

2.61 An ecological survey represents a 'snapshot' in time of the ecological condition of a site. The ecological character of a site can change substantially throughout both the course of a year, and from year to year impacting on the extent and quality of habitats potential to support protected species.

2.62 During the 16th July survey visit, one survey nest tube was recorded as missing and as such the nest tube was replaced during the survey visit. This is not considered a significant limitation to the survey given presence of hazel dormouse was confirmed during the survey.

2.63 During the survey on 20th August, one dormouse escaped nest tube 12. The animal had diagnostic features of hazel dormice (ginger fur and furry tail) and therefore, the species identification was possible. In addition to the above, the nest tube had a typical hazel dormouse nest present within it, The above is therefore not considered a limitation to the survey.

2.64 During the survey, a small number of footprint cards became covered with detritus and bird faeces which obscured a lot of the footprint cards making identification of anything present on the cards difficult. High footfall within footprint tunnels also leads to difficulty with identifying prints however, the presence of distinct prints on many tracking cards with high footfall still made identification possible. In addition to the above, blackberry feeding remains were recorded on the tracking card of one tube (see Photo 3), this obscured the tracking card, however, the blackberry juices also provide an additional tracking medium where prints where recorded. In this instance *Apodemus* sp footprints were recorded, however, the identification cannot be 100% certain and therefore these have been classified as 'possible' *Apodemus* sp footprints. The above identification limitations are not considered limitations to the survey given distinct hazel dormouse and *Apodemus* sp prints were recorded on tunnel cards during the survey.

2.65 The above are not considered to be significant limitations to the survey, since hazel dormouse presence was confirmed during the survey work.

2.66 Given the above, there are no material limitations to the survey or assessment, and this report is considered suitable to fulfil the requirements of planning.

LIFESPAN OF SURVEY DATA

2.67 If commencement of Site works is delayed beyond 18 months from the date of completion of the latest hazel dormouse survey visit (August 2025), a suitably experienced ecologist will need to undertake a Site visit and review the validity of this report.

2.68 Dependent on the results of the initial update Site visit, an update hazel dormouse presence / likely absence survey may then be required to provide up-to-date baseline survey data and to ensure that the project has a robust understanding of project legal risks with regards to hazel dormice.

3. RESULTS

DESK STUDY

3.1 The biological records search did not return any records of hazel dormouse within 1km of the Site.

3.2 A search of Natural England's MAGIC website returned eight records of granted hazel dormouse EPSM licences within 5km of the site.

3.3 The closest granted hazel dormouse EPSM licence (2017-28947-EPS-MIT-2) is located *c*.2.4km north-west of the Site and permits/permitted the damage and destruction of a resting place and breeding site between 2017 and 2022. The location of this licence is west of the M23 motorway which constitutes a significant barrier to hazel dormouse dispersal.

3.4 The closest granted hazel dormouse licences present between the Site and the M23 are located approximately 3.6km south-west of the Site (EPSM2011-3142 and 2014-135-EPS-MIT). These licence locations have direct connectivity to the Site through expanses of woodland, hedgerows and tree lines and there are no significant barriers to dispersal present.

3.5 A search of the Natural England's MAGIC website confirmed the presence of *c*.163ha of suitable hazel dormouse habitat (Priority Habitat Inventory (Deciduous Woodland)) located within 1km of the Site and all the habitats have direct landscape level connectivity to the Site through hedgerows and tree lines. The closest areas of mapped deciduous woodland are approximately 70.54ha and 0.78ha and are located immediately adjacent to the southern and eastern boundaries of the Site, respectively.

HABITAT ASSESSMENT

3.6 Table 6 below lists the habitats present within the Site and provides detail of the habitat assessment.

Table 6 Site habitat assessments

Habitat Reference	Description	Species diversity	Structural complexity
H1	Low-level non-native ornamental hedge with scattered trees dominated by privet (*Ligustrum vulgare*). Trees present within the canopy comprise grey poplar (*Populus x canescens*), hazel (*Corylus avellana*), goat willow (*Salix caprea*) and silver birch (*Betula pendula*).	Medium	Medium
H2	Native species hedge including holly (*Ilex aquifolium*), hawthorn (*Crataegus monogyna*), cherry laurel (*Prunus laurocerasus*) and privet. Scattered trees are present along the hedgerow these include ash (*Fraxinus excelsior*), norway maple (*Acer platanoides*), bird cherry (*Prunus padus*), wild cherry (*P. avium*), silver birch, field maple (*Acer campestre*), white poplar (*Populus alba*) and hawthorn.	Medium	Medium
LT1	Tree line comprising ash, silver birch, leyland cypress (× *Cuprocyparis leylandii*), norway maple, false acacia (*Robinia pseudoacacia*), beech (*Fagus sylvatica*) and red oak (*Quercus rubra*).	Medium	Low
LT2	Tree line comprising common oak (*Quercus robur*), grey poplar, hawthorn, holly, hazel, silver birch, present along dry ditch.	Medium	Low

Habitat Reference	Description	Species diversity	Structural complexity
LT3	Tree line comprising holly, sycamore (*Acer pseudoplatanus*), hawthorn and common oak.	Medium	Low
LT4	Tree line comprising silver birch, hazel and holly.	Medium	Low
LT5	Tree line adjacent to golf course comprising of oak, holly, hazel, hawthorn and silver birch.	Medium	Low
LT6	Tree line comprising holly, hawthorn, silver birch, hazel and common oak.	Medium	Low

3.7 Hedges H1 and H2 are considered to be of 'good' quality for hazel dormice.

3.8 All the on-site tree lines are considered to be of 'poor' quality for hazel dormice.

3.9 The on-site grassland and access track do not provide habitat suitable for hazel dormice and therefore have been assessed as being of 'negligible' suitability for hazel dormice.

3.10 The extent of on-site habitat suitable for hazel dormice is shown within Appendix 3.

HAZEL DORMOUSE SURVEY

3.11 The locations where evidence and indicators of hazel dormouse presence were recorded during the course of the survey visits are included within Appendix 3.

3.12 Detailed survey results and photographic evidence for the hazel dormouse presence / likely absence survey are provided within Appendix 4 and Appendix 5, respectively.

3.13 An overview of survey results recorded during the dormouse survey are detailed below.

16TH JULY 2025

3.14 No evidence of hazel dormouse presence recorded during the survey visit.

3.15 *Apodemus* sp. footprints were recorded within a number of the footprint tunnels.

6TH AUGUST 2025

3.16 No evidence of hazel dormouse presence recorded during the survey visit.

3.17 *Apodemus* sp. footprints were recorded within a number of the footprint tunnels.

20TH AUGUST 2025

3.18 One occupied hazel dormouse nest was recorded within nest tube 12. The hazel dormouse present within the tube escaped, however, the key diagnostic features of the species were visible prior to the escape. The dormouse nest present within the tube comprised a woven centred structure encased by a small number of leaves.

3.19 Hazel dormouse footprints were recorded within footprint tunnel 13.

3.20 *Apodemus* sp. footprints were recorded within a number of the footprint tunnels.

4. EVALUATION AND RECOMMENDATIONS

4.1 Hazel dormice are present within the Site.

4.2 *The 'Dormouse Conservation Handbook'* states that, once hazel dormouse presence is recorded on a Site, it should be assumed that all suitable habitat is occupied by this species.

4.3 The Site supports *c*.0.193km of 'good' quality and *c*.0.778km of 'poor' quality hazel dormouse habitat.

4.4 Given the above, the Site is considered to support an estimated density of 4 dormice.

4.5 The on-site habitats form a relatively small constituent part of the wider habitat network available to the local hazel dormouse population. For this reason, if hazel dormice utilise the habitats present on the application site, these on-site habitats are likely to be of 'local' importance for the local hazel dormouse population.

4.6 In the absence of appropriate avoidance, mitigation and compensation measures, the proposed development works will result in the reduction of occupied hazel dormouse habitat, however, the scale of impacts are considered to be small.

4.7 Given the above, appropriate avoidance, mitigation and compensation measures will need to be adopted and implemented to minimise the risk of the proposed works adversely affecting hazel dormice and/or resulting in a legal offence with regards to this species.

4.8 Given the small scale of impacts it may be considered appropriate for a Precautionary Working Method Statement to be adopted to minimise impacts upon hazel dormice through habitat removal. If the impacts of the scheme significantly change and result in an increase in the extent of hazel dormouse habitat removal, a review will need to be undertaken to determine whether a hazel dormouse EPSM licence will need to be applied for and granted by Natural England to facilitate the proposed development works.

4.9 If required, the EPSM licence will detail the precise mitigation proposals to prevent harm to hazel dormice during works and will provide full detail of the proposed compensatory habitat creation measures, habitat enhancement measures and habitat management measures.

4.10 The EPSM licence will also detail how the 'Favourable Conservation Status' of the hazel dormouse population within and surrounding the application site will be maintained. Replacement habitat will be provided to compensate for the loss of existing dormouse habitat. The compensatory habitat will be in accordance with the conditions of the approved licence.

4.11 An EPSM licence cannot be obtained until full planning permission has been granted with all relevant wildlife conditions discharged.

4.12 The associated '*Ecological Impact Assessment'* report details avoidance, mitigation, compensation and enhancement measures associated with hazel dormice (and other species). The '*Ecological Impact Assessment'* report also considers the 'Favourable Conservation Status' of the local hazel dormouse population.

5. REFERENCES

Bright, P., Morris, P. & Mitchell-Jones, A. (2006). *The dormouse conservation handbook, 2nd edition*. Peterborough: English Nature.

Bright, P. W., Mitchell, P. & Morris, P., A. (1994). *Dormouse distribution: Survey techniques, insular ecology*. Journal of Applied Ecology, 31(2), pp. 329-339.

Bullion, et al. (2025) Hazel Dormouse Conservation Handbook – Third edition. The Mammal Society.

Chanin, P. & Gubert, L. (2012). *Common dormouse (Muscardinus avellanarius) movement in a landscape fragmented by roads*. Lutra, 55(1), pp. 3-15.

Chanin, P. & Woods, M. (2003). *Surveying dormice using nest tubes: Results and experiences from the south west dormouse project*. Peterborough: English Nature.

Chartered Institute of Ecology and Environmental Management (CIEEM) (2024). *Guidelines for ecological impact Assessment in the UK and Ireland: Terrestrial, freshwater, coastal and marine. Version 1.3 (September 2023).,* Winchester: CIEEM.

Juškaitis, R. (1997). *Ranging and movement of the common dormouse Muscardinus avellanarius in Lithuania.* Acta Theriologica, 42(2), pp. 113-122.

Juškaitis, R. (2005). *The influence of high nest-box density on the common dormouse population*. Acta Theriologica, 50(1), pp. 43-50.

Lloydbore Ltd (2019). *Preliminary Ecological Appraisal - Copthorne Common Road* (Ref: 5096-LLB-RP-Ec-0001-S4-P02). Lloydbore Ltd, Canterbury.

Kelm, J. et al. (2015). *How often does a strictly arboreal mammal voluntarily cross roads? New insights into the behaviour of the hazel dormouse in roadside habitats*. Folia Zoologica., 64(4), pp. 342-348.

Kent Wildlife Trust (2022). *Local wildlife sites in Kent: Criteria for selection and delineation*. *Version 1.7, June 2022*., Kent: Kent Wildlife Trust.

Lloydbore Ltd (2025). *Ecological Impact Assessment* (ref: 5096-LLB-XX-XX-0005-S4-P01). Lloydbore Ltd, Canterbury.

Natural England (2022). *Hazel dormice: Advice for making planning decisions*. Available at: https://www.gov.uk/guidance/hazel-or-common-dormice-surveys-and-mitigation-for-development-projects [Accessed 03/09/2025].

Phillips, B., B., Crowley, S., L., Bell, O. & McDonald, R., A. (2022). *Harnessing practitioner knowledge to inform the conservation of a protected species, the hazel dormouse Muscardinus avellanarius*. Ecological Solutions and Evidence, 3(4).

Wells, et al. (2025) Hazel Dormouse Mitigation Handbook. The Mammal Society.

6. APPENDIX 1: LEGISLATION AND PLANNING POLICY

6.1 The Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife and Countryside Act 1981 (as amended) afford legal protection to hazel dormice.

6.2 The specific legal protection afforded to hazel dormice can be found within the Sections and Schedules of the relevant legislation and relevant case law.

6.3 In general, any person that: -

- Damages or destroys a breeding or resting place of hazel dormice. (This is sometimes referred to as the strict liability or absolute offence);
- Deliberately captures, injures or kills a hazel dormouse/dormice;
- Deliberately disturbs hazel dormice, and in particular disturbance likely to impair animals' ability to survive, breed or nurture young, their ability to hibernate and migrate and disturbance likely to have a significant effect on local distribution and abundance;
- Intentionally or recklessly disturbs a hazel dormouse/dormice while occupying a structure or place used for shelter and / or protection (Wildlife and Countryside Act 1981 (as amended)); and
- Intentionally or recklessly obstructs access to any structure or place that a hazel dormouse / dormice use for shelter or protection (Wildlife and Countryside Act 1981 (as amended)).
- …may be guilty of an offence under the Conservation of Habitats and Species Regulations 2017 and/or the Wildlife and Countryside Act 1981 (as amended).

6.4 Actions affecting multiple animals can be construed as separate offences and therefore penalties can be applied per animal impacted.

6.5 Under certain circumstances licences can be granted by the Statutory Nature Conservation Organisation (Natural England in England) to permit actions that would otherwise be unlawful.

6.6 There are some very specific defences associated with the Conservation of Habitats and Species Regulations 2017 (as amended), however these are unlikely to apply to construction related projects. The Sections of the Regulations provide further details of these defences.

6.7 The Wildlife and Countryside Act (1981) includes defence for those aspects of the legislation that apply to hazel dormice. These defences are unlikely to apply to construction related projects and do not apply to those acts included in the Conservation of Habitats and Species Regulations 2017 (as amended). The Schedules of the Act provide further details of defences.

6.8 Local authorities have obligations under sections 40 and 41 of the Natural Environment and Rural Communities Act (NERC) 2006 to have regard to the purpose of conserving biodiversity in carrying out their duties.

7. APPENDIX 2: HABITAT QUALITY ASSESSMENT

7.1 For the purpose of this report, hazel dormouse habitat assessments have been undertaken in accordance with good practice guidelines (Wells, et al., 2025).

SPECIES DIVERSITY

7.2 The *'Hazel Dormouse Mitigation Handbook'* details trees and shrubs of value to dormice and these include:

7.3 The following species of benefit to dormice which must be used to inform the species diversity calculations (note that species not listed below do not count towards the diversity calculation) (Wells, et al., 2025):

- Alder buckthorn (*Frangula alnus*)
- Ash (*Fraxinus excelsior*)
- Birch (*Betula pendula* and *B. pubescens*)
- Blackthorn (*Prunus spinosa*)
- Bramble (*Rubus fruticosus* agg)
- Broom (*Cytisus scoparius*)
- Buddleia (*Buddleia davidii*)
- Crab apple (*Malus sylvestris*)
- Dogwood (*Cornus sanguinea*)
- Elder (*Sambucus nigra*)
- Field maple (*Acer campestre*)
- Gorse (*Ulex europaeus*)
- Guelder-rose (*Viburnum opulus*)
- Hawthorn (*Crataegus monogyna* and *C. laevigata*)
- Hazel (*Corylus avellana*)
- Holly (*Ilex aquifolium*)
- Honeysuckle (*Lonicera periclymenum*)
- Hornbeam (*Carpinus betulus*)
- Oak (*Quercus robur* and *Q. petraea*)
- Old man's beard (*Clematis vitalba*)
- Rose species (*Rosa* spp.)
- Rowan (*Sorbus aucuparia*)
- Spindle (*Euonymus europaeus*)
- Sweet chestnut (*Castanea sativa*)

- Sycamore (*Acer pseudoplatanus*)
- Wayfaring tree (*Viburnum lantana*)
- Whitebeam (*Sorbus aria* agg)
- Wild cherry (*Prunus avium*)
- Wild service tree (*Sorbus torminalis*)
- Willow species (*Salix* spp)
- Wych elm (*Ulmus glabra*)
- Yew (*Taxus baccata*)

7.4 The average number of woody species from multiple 100m transects should be used to measure species diversity and if there are clear distinctions between habitats and habitat types, a diversity count should be taken for each habitat (Wells, et al., 2025).

Table 7 Categories for species diversity (per km of hedgerow and per hectare of woodland or scrub).

Diversity category	No. of species
High	>6 spp
Medium	3-6 spp
Low	<3 spp

STRUCTURAL COMPLEXITY

7.5 Tables 8 and 9 below provide the structural complexity criteria for hedgerows and woodland and scrub and similarly to the species diversity, structural complexity should be measures for habitats where there is a distinct difference between them for example, line of trees and hedgerows would have separate structural complexity assessments.

Table 8 Structural complexity for hedgerows (Wells, et al., 2025). To fit into the high or medium category, a hedge should have all of the typical features and at least two of the other features, described. If not, it falls into the next lower category.

Structural Complexity category	Features typically present	Other characteristic features
High	No gaps or very few small gaps (up to 10% length) AND Width of hedge >3 m	Dense growth to ground level along >50% hedge length Dense outgrowths along >25% hedge length Height >3 m Mature standards <40 m spacings Marginal permanent herbaceous cover >2 m wide
Medium	10-25% of total length consists of gaps and/or some gaps large (>5 m) AND Width of hedge 2-3 m	Dense growth to ground level along 25-50% hedge length Dense outgrowths along 5-25% hedge length Height 2-3 m Mature standards at 40-100 m spacings Marginal permanent herbaceous cover 1-2 m wide

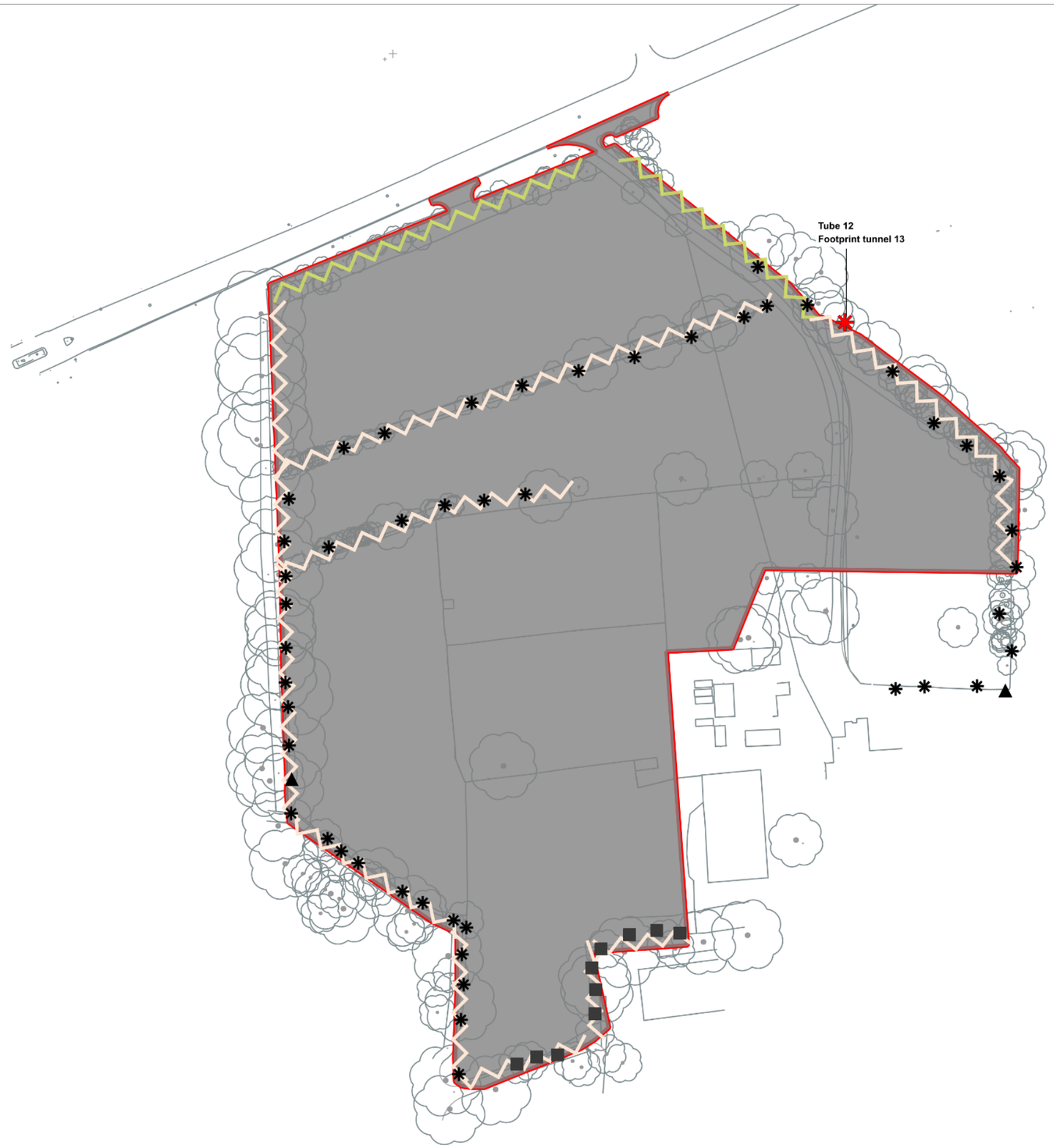
Structural Complexity category	Features typically present	Other characteristic features
Low	>25% of total length gaps and/or frequent large gaps >5 m AND Width of hedge <2 m	Dense growth to ground level along <25% hedge length Dense outgrowths along <5% hedge length Height <2 m Mature standards >100 m spacings or absent Marginal permanent herbaceous cover <1 m wide
NOTE: To fit into the high or medium category, a hedge should have all of the typical features and at least two of the other features, described. If not, it falls into the next lower category.		

Table 9 Structural complexity categories for woodland and scrub habitat (Wells, et al., 2025).

Structural Complexity	Woodland and scrub
High	Canopy and understorey layers present and well-connected, with or without scrub layer (e.g. bramble) beneath. OR Understorey and scrub generally present and well-connected with canopy sparse or absent.
Medium	Understorey layer generally present, with sparse or absent canopy and scrub layers. OR Scrub with developing understorey and/or canopy trees.
Low	Canopy present with sparse or absent understorey, with or without scrub layer. OR Scrub present, with sparse or absent canopy and understorey above.

8. APPENDIX 3: DORMOUSE HABITAT SUITABILITY AND RESULTS PLAN

[SEE OVERLEAF]



Date	ID	Field sign
20/08/2025	Tube 12	Occupied hazel dormouse nest (1 no. UID hazel dormouse)
	Tunnel 13	Hazel dormouse footprints

Legend:

- Evidence of hazel dormouse presence
- Location of nest tube and footprint tunnel
- Location of nest tube
- Location of footprint tunnel
- Length of good quality hazel dormouse habitat
  Total length approx: 193m
- Length of poor quality hazel dormouse habitat
  Total length approx: 778m
- Area of negligible quality hazel dormouse habitat
- Red line boundary
  Total area approx: 4.3647 ha.

0 15 30 m
1:1500

client. *Option Two Development Ltd*
project. *Land at Courthouse Farm*
Copthorne Common Road
Copthorne, West Sussex

drawing no. *5096-LLB-RF-0028*
drawing title. *Dormouse Survey Plan*
title 2.
title 3.

scale. *1:1500*
sheet. *A3*
author. *VG*
checked. *CC*

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9. APPENDIX 4: DETAILED HAZEL DORMOUSE SURVEY RESULTS

9.1 Tables 10 and 11 below show the detailed survey results and such tables exclude evidence where nest tubes and footprint tunnels were 'empty' during survey visits.

Table 10 Detailed hazel dormouse nest tube survey results 2025.

Date	Tube no.	Comments
16/07/2025	14	Missing tube
20/08/2025	12	Occupied hazel dormouse nest - 1 no. UID hazel dormouse escaped from the tube.

Table 11 Detailed hazel dormouse footprint tunnel survey results 2025.

Date	Footprint Tunnel no.	Comments
16/07/2025	1	*Apodemus* sp prints (high footfall across tracking card)
	2	*Apodemus* sp prints
	13	*Apodemus* sp prints (very faint)
06/08/2025	1, 2, 3	*Apodemus* sp prints
	5, 26	*Apodemus* sp prints (high footfall across tracking card)
	17	Blackberry feeding remains present with high footfall of possible *Apodemus* prints.
	30	High footfall across tracking card, identification of prints not possible.
	32, 35	*Apodemus* sp prints (very faint)
20/08/2025	2	*Apodemus* sp prints (very faint)
	3, 16	*Apodemus* sp prints
	13	Hazel dormouse footprints.
	17, 26, 26	Very faint prints, identification of prints not possible.
	30, 31	*Apodemus* sp prints (high footfall across tracking card)

10. APPENDIX 5: PHOTOGRAPHS

Table 12 Hazel dormouse evidence recorded during 2025 dormouse nest tube survey.

Photo 1 Hazel dormouse nest recorded within Nest Tube 12 on 20th August 2025.

Table 13 Hazel dormouse evidence recorded during 2025 dormouse footprint tunnel survey.

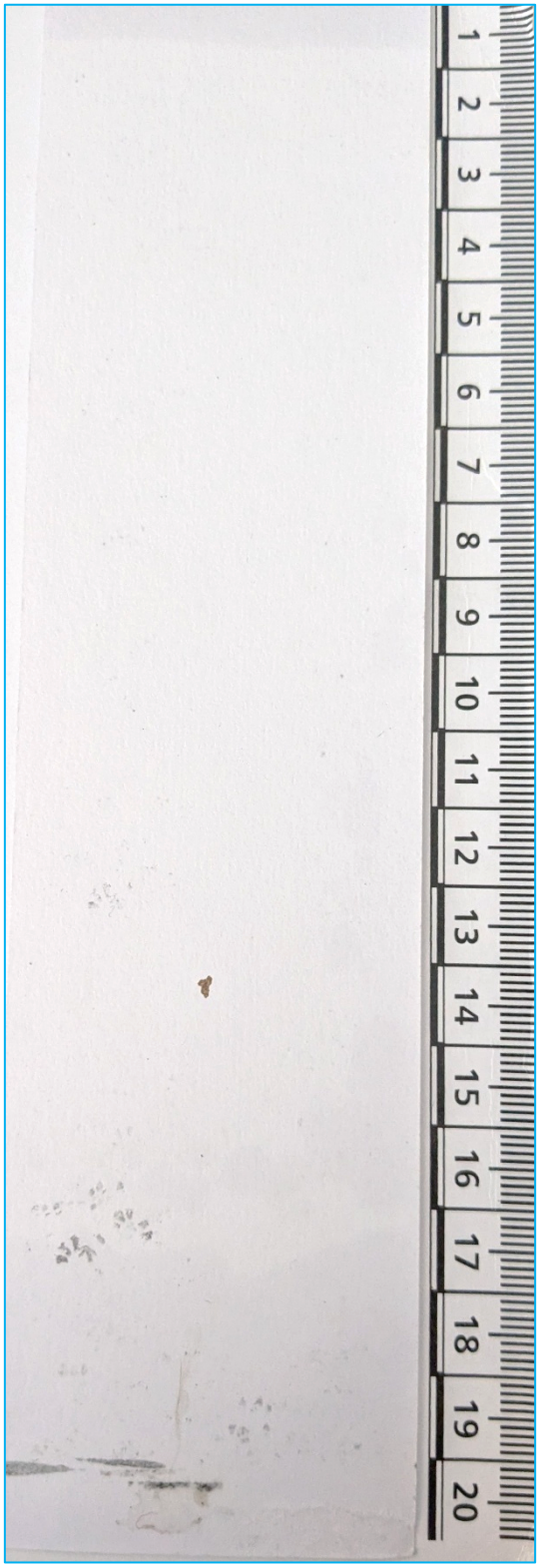

Photo 2 Hazel dormouse footprints recorded within footprint tunnel 13.

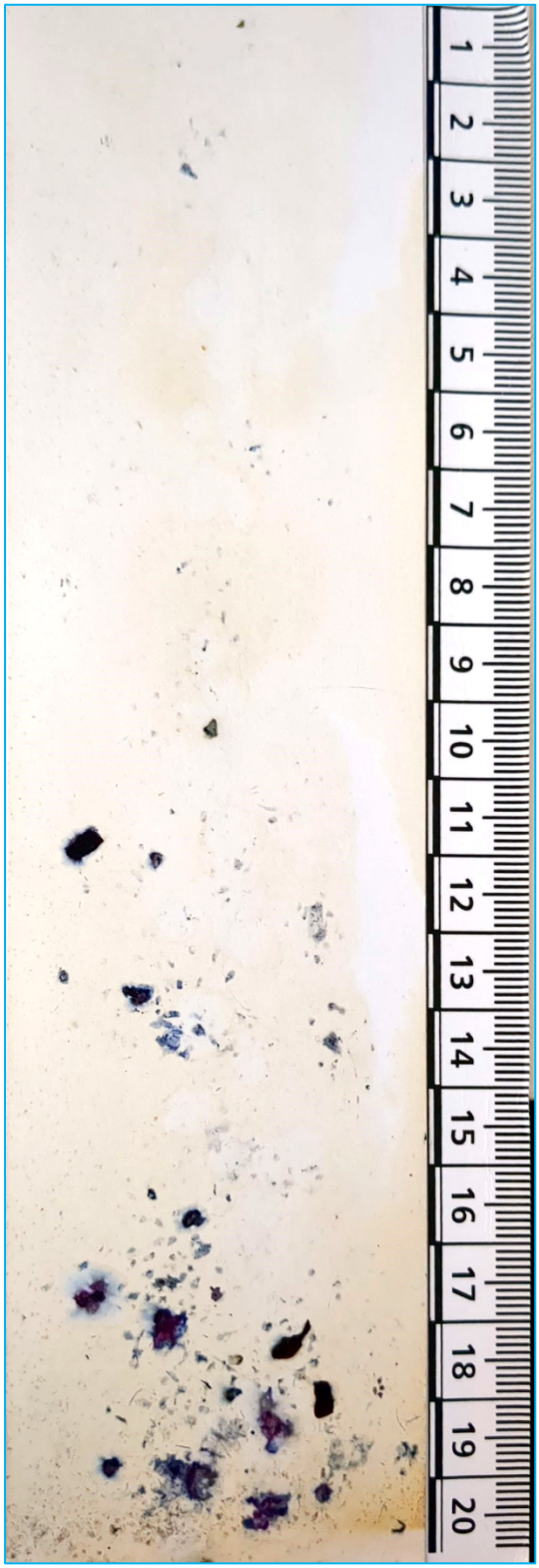

Photo 3 Blackberry feeding remains and multiple Apodemus sp. footprints recorded within footprint tunnel 17 on 6th August 2025.