
Chapel Lane, Widnes

Update Badger (*Meles meles*) Survey Report

Compiled by Ecology Services Ltd.

on behalf of

Taylor Wimpey

September 2022 (rev. April 2023)



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Executive Summary

Ecology Services Limited was commissioned by Taylor Wimpey in February 2022 to undertake an updated badger survey of land at Chapel Lane, Widnes; National Grid Reference: (NGR) 350000, 387800. Outline planning permission (with all matters other than access reserved) is being sought for up to 350 dwellings, public open space, landscaping and associated infrastructure works.

Following recommendations outlined in the 2019 Extended 1 Habitat Survey Report compiled by Ecology Services Ltd, a badger survey was initially commissioned and completed in March 2020. The 2020 badger survey found multiple (up to 12) mammal holes of a size and shape to permit badger in the wider survey area in association with a dry ditch on the north and eastern boundary of the site.

The data from the surveys is now considered to be out of date and this report provides the results of the updated survey. The updated badger survey confirmed no change to the holes previously identified during the 2020 badger survey, along with finding an additional single disused hole. No evidence of badger was identified around or in the vicinity of any of the holes or elsewhere on the site or in the 30m wider survey area, therefore, they are not considered to be currently used by badger.

If the holes were to become occupied by badger, it is considered that there will be no direct impacts to the mammal holes by the proposed development as they are located outside of the site, in the wider survey area. All of the tunnels are leading away from the site into the woodland and are located on the banks of a deep ditch which acts as a barrier to any potential tunnels leading into the site.

As there is the potential for the mammal holes to become occupied by badger in the interim time between this survey being undertaken and the works commencing and therefore the potential for disturbance to occur during the development, it is recommended that a precautionary pre-commencement check is undertaken prior to works beginning on site. Contractors must be mindful of the potential for badgers at all times. If a badger/s is/are or a badger sett/s is/are identified or suspected during the works then all works must cease and the ecologist notified for advice.

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1.0 Introduction

1.1 Ecology Services Limited was commissioned by Taylor Wimpey in February 2022 to undertake an updated badger survey of land at Chapel Lane, Widnes; National Grid Reference: (NGR) 350000, 387800.

1.2 This Bat Transect & Automated Survey report has been prepared by Ecology Services Limited on behalf of Taylor Wimpey UK Ltd to assist the local planning authority's consideration of an outline planning application for a site at Chapel Lane, Widnes for:

"Outline planning application (with all matters other than access reserved) (to be determined by Halton Borough Council only) for the development of up to 350 dwellings, public open space, landscaping and associated infrastructure works. Full details for site access arrangements via a new junction on Chapel Lane (to be determined by Knowsley Borough Council only) and emergency access via Sandy Lane (to be determined by Halton Borough Council)."

1.3 The proposed development site is located to the north-west of the Widnes urban area. The site is situated within the boundary of two separate allocations for residential development within the adopted Halton Delivery and Allocations Local Plan [DALP] (March 2022) under Policy RD1 (Residential Development Allocations). The allocations comprise two separate land parcels separated by Sandy Lane, (Site Ref. W4 to the west of Sandy Lane and Site Ref. W5 to the east). The application red line boundary does not extend to the full extent of the allocation.

Background and Context

1.4 Ecological scoping surveys were completed in April 2019, which included an Extended Phase 1 Habitat Survey and a desktop study. In brief, the scoping surveys identified habitats on site and in the 30m wider survey area which are currently suitable to support badger. Evidence in the 30m wider survey area was found in the form of a probable badger sett (status unknown).

1.5 Following recommendations outlined in the Extended 1 Habitat Survey Report¹ compiled by Ecology Services Ltd, a badger survey was commissioned and completed in March 2020. The 2020 badger survey found multiple (up to 12) mammal holes of a size and shape to permit badger located in the wider survey area, along the southern bank of a dry ditch on the north eastern boundary of the site. No evidence of badger was identified surrounding the holes, although there was extensive evidence of use by rabbit. No other evidence of badger was found within the site or the wider survey area (where access was possible). Please refer to the 2020 Badger Survey Report (Appendix 1).²

1.6 As it has now been two years since the last badger survey was undertaken and the survey is out of date, an updated badger survey was recommended. This report presents the results of the badger survey, conclusions and potential implications for the development.

1.7 As the exact development design is not known at this time, the report makes outline recommendations only. See Figure 1 showing the Updated Badger Survey Map.

1.8 The aims of the badger survey were to:

- Undertake a badger survey of the site and the immediate surrounding land (up to 30m from the site) to identify evidence of badger.
- Record and map signs of badger within the site and the immediate surrounding land.

¹ PEA Report, Chapel Lane, Widnes 2019

² ESL Badger Survey Report-Chapel Lane, Widnes 2020

- Assess the potential impacts of the proposed development.
- Provide recommendations to mitigate against any impact on badgers.

1.9 All survey works were undertaken by experienced ecologists during suitable weather conditions and at an appropriate time of year.

2.0 Planning Policy and Legislation

Planning Policy

2.1 The National Planning Policy Framework (NPPF, 2021) places a clear responsibility on Local Planning Authorities (LPA) to contribute to conserving and enhancing the natural and local environment. LPAs should promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species (e.g. Species of Principal importance, Local Biodiversity Action Plan species); and identify and pursue opportunities for securing measurable net gains for biodiversity. The Office of the Deputy Prime Minister (ODPM) Circular 06/2005 provides administrative guidance on the application of the law in relation to planning and nature conservation.

2.2 A Local Planning Authority (LPA) has a duty to ensure that protected species and habitats within the UK are a 'material consideration' in the determination of a planning application. Therefore, an LPA is unlikely to determine an application until all relevant information relating to protected species or habitats is submitted to fully inform the application. Relevant information includes adequate surveys and, where required, mitigation strategies, which will need to be submitted to inform a planning application.

Legislation

2.3 Badgers and their active setts are protected under the Protection of Badgers Act (1992). The Protection of Badgers Act 1992 was designed to protect badgers from baiting and deliberate harm or injury. It also contains restrictions that apply more widely.

2.4 Under this legislation it is an offence to:

- Wilfully kill, injure or take, or attempt to kill, injure or take a badger.
- Cruelly ill-treat a badger, dig for badgers, use badger tongs, use a firearm other than the type specified under the exceptions within the Act.
- Intentionally or recklessly damage, destroy or obstruct access to any part of a sett.
- Disturb a badger whilst it is occupying a sett.
- causing a dog to enter a sett,
- Sell or offer for sale or possess a live badger,
- Have possession or control of a live badger.
- Mark a badger or attach any ring, tag, or other marking device to a badger.

2.5 A sett is defined as '*any structure or place which displays signs indicating current use by a badger*'. Natural England³ advises that other structures used by badgers for shelter and refuge could also be classed as a sett, including spaces among rocks and boulders, under garden sheds and raised buildings, among hay bales and under hedges or bushes.

2.6 '*Current use*' is not the same as current occupation; even if the sett is unoccupied, if there are still signs of current use, it would be covered by the Act. There is no legal definition as to what 'signs of current use' are. Natural England advises¹ that sett entrances should be monitored over an extended period of time, e.g. up to 4 weeks, to establish whether a sett is in current use.

³ <https://www.gov.uk/guidance/badgers-surveys-and-mitigation-for-development-projects>

- 2.7 Developments with potential to disturb, destroy or obstruct an active badger sett will require a badger development licence from Natural England, which permits otherwise illegal actions.
- 2.8 An assessment needs to be undertaken by a competent Ecologist to determine if a badger sett will be affected by the works, to take into account specific site conditions and potential impacts. As a guide, a Natural England development licence will be required if destruction or interference of a badger sett, such as badger exclusion works takes place.
- 2.9 A licence is not normally needed for the following activities if it is unlikely to disturb a badger in its sett or damage a sett⁴:
- Work with hand tools or machinery above or below ground close to a sett.
 - Clear vegetation near setts, including felling small trees or shrubs, provided they are not uprooted and do not block access to the sett.
 - Clear ditches and watercourses using hand tools or machinery.
- 2.10 If the proposed development works are found to affect an active badger sett, a Natural England badger development licence will be required. Natural England's consultation period may take up to 30 working days to determine the outcome of the licence application. There are strict timing constraints associated with sett closure. Licences to exclude badgers and to close down or destroy a sett are only issued between 1 July and 30 November, other than in exceptional circumstances.

3.0 Methodology

Desktop Study

- 3.1 A desktop study involves contacting local record centres for existing records of badger. A desktop study was undertaken as part of the Ecological Appraisal in June 2022. Merseyside Environmental Advisory Service (MEAS) and RECORD (Cheshire) were contacted for records up to 2km from the site. It is considered that a further desktop study for badgers will be requested if required depending on the findings of the updated survey.

Badger Survey Methodology

- 3.2 The badger survey entailed walking landscape features which are known to be suitable badger habitats, whilst looking for evidence of badgers.
- 3.3 Badger signs include:
- **Active and disused setts** - These include main setts (breeding setts), annexe setts, subsidiary setts and outlier setts. If setts are found, they will be examined for the presence of recently excavated spoil and discharged bedding material. See Appendix 2 for details of sett classification criteria and definitions of active and disused setts.
 - **Pathways** - Pathways used by badgers will be fully surveyed, particularly those linking different setts and those indicating the routes to territory boundaries and foraging areas.
 - **Latrines/dung pits** - Badger dung pits are shallow scrapes/pits in which dung is deposited. Latrines are collections of dung pits placed at strategic places e.g. setts (both inside and outside), boundaries of territories, pathways and foraging areas. All dung pits and latrines will also be recorded.
 - **Footprints** - The searches will record footprints in soft ground.
 - **Hairs** – Badger guard hairs, are distinctive and often get caught on vegetation or fences; such features will be checked.

⁴ <https://www.gov.uk/guidance/badgers-protection-surveys-and-licences>

- **Feeding** - Grassland and other habitats will be examined for signs of foraging such as grubbing for plant roots and among dung piles for earthworms.
- **Scratching/markings** - Any additional evidence such as claw marks on trees will also be recorded.

- 3.4 The survey effort will concentrate within the development site and 30m outside the site, following pathways and extending the survey area, to locate distant badger setts. The area of the wider survey area will be determined during the survey based on the evidence found.
- 3.5 Land use and management relevant to badgers will also be recorded to enable assessment of the foraging potential for badgers.

Timing

- 3.6 Signs of badger can be found by an experienced ecologist throughout the year. Optimal survey periods are between February to May (peak territorial activity and low vegetation cover) and can on occasions be considered during October (less pronounced peak in territorial activity and medium vegetation cover). Sub-optimal survey periods are June to September when vegetation levels are high and field signs are both less abundant and obvious, and November to January when badgers are less active and spend more time underground.
- 3.7 If a survey is completed during sub-optimal periods and is inconclusive due to dense vegetation rendering habitats unsearchable, then there may be a requirement to re-survey at a more appropriate time of year.
- 3.8 The badger survey was undertaken on the 23rd June 2022 during a sub-optimal period when dense vegetation can limit the searching effort.

Personnel

- 3.9 All survey works were undertaken by experienced Senior Consultant Ecologist Mr S. Booth and Ecologist Miss L. Smithers MA, BA (Hons).

Limitations

- 3.10 As per the previous 2020 badger survey, access was not granted to survey some parts of the 30m buffer or the wider survey area, as a percentage of the surrounding land is occupied by residential properties. It is considered that the residential gardens could be used for foraging and potentially sett building. Unlike the previous survey, the arable fields to the north were accessed.
- 3.11 Access was also restricted to many of the ditches within and surrounding the site due to dense bramble scrub.
- 3.12 In all instances, the adjacent land was accessed to look for pathways entering gardens and ditches.

4.0 Results and Evaluation

Desktop Study Results

- 4.1 The desktop study undertaken as part of the Ecological Appraisal in 2022 identified one record of a dead badger within 2km of the proposed development from the 1km grid square SJ5085, at least 1.6km south of the site, dated 2018. No further desktop study has been undertaken for badger.

Habitat Description

- 4.2 There has been no change to the habitats on site since the 2020 badger survey. Habitats within the site are considered suitable to support badger with areas within 30m of the site also being appropriate, providing suitable foraging habitat as well as sett building opportunities. Suitable habitat includes grassland, woodland, dense scrub, scattered trees, hedgerows and arable fields.
- 4.3 The farm buildings and associated areas of hard standing present within the site have lower potential for sett building and no setts were identified but may provide foraging habitat for badger, although no evidence of foraging was found during the survey.
- 4.4 With regards to connectivity between the site and the wider countryside, the land surrounding the south and east of the site is largely built upon with dense areas of residential buildings offering little or no potential for dispersal or recruitment due to physical barriers. There is connectivity to the north and west of the site which is largely arable fields with a small number of residential properties along Chapel Lane.

Badger Survey Results

- 4.5 All accessible areas within the development footprint and within 30m of the site boundary, were surveyed for the presence of badger, as shown on Figure 1. Land access was not possible to survey the residential gardens to the south of the site, to the west of Chapel Lane. However, the boundaries of the site were walked in full and inspected. No evidence of badger was identified.

Mammal Holes

- 4.6 The previous Extended Phase 1 Habitat Survey identified a probable badger sett with approximately ten holes, located in woodland in the wider survey area on the banks of a dry ditch on the north eastern site boundary. At the time of the Extended Phase 1 survey, the holes appeared to be active but could not be closely inspected at the time.
- 4.7 The surveyors undertaking the 2020 badger survey inspected the holes and concluded that they were of a size and shape to permit badger entry, although some of the holes were found to have collapsed inside and many were covered with leaf litter. No evidence of badger was found in any of the holes or in the vicinity of the holes, therefore it was considered that they were not in use by badger at that time.
- 4.8 An additional isolated mammal hole of a size and shape to permit badger was also identified approximately 235m to the south of the group of mammal holes on the eastern bank of the dry ditch. Because of dense scrub, binoculars were used to inspect the hole and surrounding area and no evidence of recent use by badger such as fresh spoil or pathways through the scrub leading to the hole was identified.
- 4.9 The updated badger survey was able to look at the group of mammal holes and also the hole 235m to the south of the group and found no change to the holes had occurred since the previous visits.
- 4.10 During the updated badger survey, a further mammal hole was identified approximately 70m north of the isolated hole and approximately 165m south of the group of holes as below image. The hole did not recede or had collapsed and had not been in use for some considerable time. It is not clear as to which mammal species may have excavated the hole but the size was considered to be too small for badger.



- 4.11 No evidence of badger was found in any of the holes or in the vicinity of the holes, therefore it is considered that they are not in use by badger. There was some evidence of use by rabbit within the site and around some of the holes.

Pathways

- 4.12 The survey found a small number of pathways on site and within 30m of the site. None of the pathways could be positively attributed to badger or had any connection to the holes identified in the wider survey area. The pathways are identified on Figure 1.
- 4.13 Pathways were also present in the woodland in the south of the site, however this area is open to the public and there was evidence of extensive use by dog walkers.

Other Badger Signs

- 4.14 The survey found no evidence of latrines/dung pits, footprints, hairs, feeding or scratching/markings within the site or within the 30m wider survey area.

5.0 Impacts and Recommendations

- 5.1 The desktop study undertaken as part of the Extended Phase 1 survey in 2022 found a record of a dead badger from 2018, located at least 1.6km south of the site. The results of the updated survey found no evidence of badger and it is therefore considered that an updated desktop will not alter the results or the recommendations.
- 5.2 The updated badger survey confirmed no change to the holes previously identified during the 2020 badger survey, along with finding an additional single disused hole. No evidence of badger was identified around or in the vicinity of the holes or elsewhere on the site or in the 30m wider survey area, therefore, they are not considered to be currently used by badger.
- 5.3 If the holes were to become occupied by badger, it is considered that there will be no direct impacts to the mammal holes by the proposed development as they are located outside of the site, in the wider survey area. All of the tunnels are leading away from the site into the

woodland and are located on the banks of a deep ditch which acts as a barrier to any potential tunnels leading into the site.

- 5.4 In the unlikely event that the holes were to become occupied by badger in the interim time between the survey being undertaken and the development works commencing, indirect impacts such as disturbance caused by the development works may occur.
- 5.5 A guideline distance of up to 30m from any active sett provides an indication of the potential for disturbance to badgers. No badger setts were found within the proposed development site or the surrounding 30m boundary and no badger pathways or any other signs were observed throughout the survey area. Therefore, there are no apparent implications with regards to development and badgers at the time of survey.
- 5.6 As there is the potential for the mammal holes to become occupied by badger in the interim time between this survey being undertaken and the works commencing and therefore the potential for disturbance to occur during the development, it is recommended that a precautionary pre-commencement check is undertaken prior to works beginning on site. Contractors must be mindful of the potential for badgers at all times. If a badger/s is/are or a badger sett/s is/are identified or suspected during the works then all works must cease and the ecologist notified for advice.
- 5.7 If no works have been undertaken within a year of this report, an updated survey should be undertaken.

6.0 References

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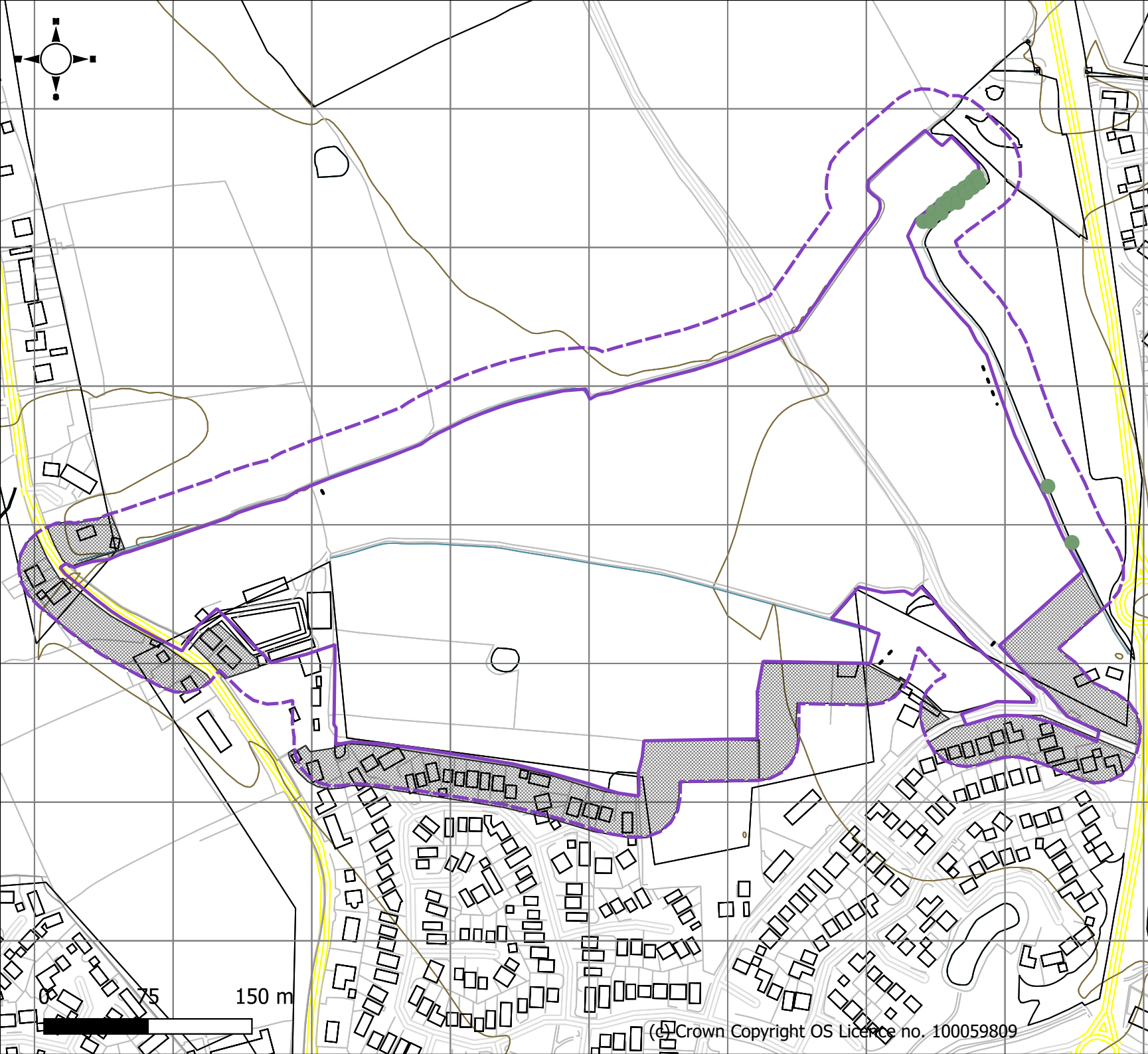
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Figure 1:
Updated Badger Survey Map



Chapel Lane, Widnes

Figure 1: Badger Survey Map

Map Ref (NGR): 350000, 387800

-  Site boundary
-  30m buffer
-  Mammal hole
-  Mammal path
-  No access

Appendix 1

Chapel Lane-Widnes Badger (*Meles meles*) Survey Report Ecology Services Limited (2020)

Chapel Lane-Widnes

Badger (*Meles meles*) Survey Report

Compiled by Ecology Services Ltd.

on behalf of

Taylor Wimpey

April 2020



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Ecological scoping surveys were completed in April 2019, which included an Extended Phase 1 Habitat Survey and a desktop study. The scoping survey identified habitats on site and in the 30m wider survey area which are currently suitable to support badger. Evidence in the 30m wider survey area was found in the form of a probable badger sett (status unknown).

The badger survey conducted in March 2020 found multiple (up to 12) mammal holes of a size and shape to permit badger in the wider survey area along the southern bank of a dry ditch on the north eastern boundary of the site. No evidence of badger was identified surrounding the holes, although there was extensive evidence of use by rabbit. No other evidence of badger was found within the site or the wider survey area (where access was possible).

If the holes were to become occupied by badger, it is considered that there will be no direct impacts to the mammal holes by the proposed development as they are located outside of the site, in the wider survey area. All of the tunnels are leading away from the site into the woodland and are located on the banks of a deep ditch which acts as a barrier to any potential tunnels leading into the site.

As there is the potential for the mammal holes to become occupied by badger in the interim time between this survey being undertaken and the works commencing and therefore the potential for disturbance to occur during the development, it is recommended that a precautionary pre-commencement check is undertaken prior to works beginning on site. Contractors must be mindful of the potential for badgers at all times. If a badger/s is/are or a badger sett/s is/are identified or suspected during the works then all works must cease and the ecologist notified for advice.

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Figure 1: Badger Survey Plan

Appendices

Appendix 1: Badger Setts Classification/ Hole Usage Criteria

1.0 Introduction

- 1.1 Ecology Services Limited was commissioned by Taylor Wimpey in March 2020 to undertake a badger survey of land at Chapel Lane, Widnes; National Grid Reference: (NGR) 35004, 38780.
- 1.2 Ecological scoping surveys were completed in April 2019, which included an Extended Phase 1 Habitat Survey and a desktop study. In brief, the scoping surveys identified habitats on site and in the 30m wider survey area which are currently suitable to support badger. Evidence in the 30m wider survey area was found in the form of a probable badger sett (status unknown). Following recommendations outlined in the Extended 1 Habitat Survey Report compiled by Ecology Services Ltd, a badger survey was commissioned and completed in March 2020. This report presents the results of the badger survey, conclusions and potential implications for the development.
- 1.3 As the exact development design is not known at this time, the report makes outline recommendations only. See Figure 1 showing the Badger Survey Plan.
- 1.4 The aims of the badger survey were to:
- Undertake a badger survey of the site and the immediate surrounding land (up to 30m from the site) to identify evidence of badger.
 - Record and map signs of badger within the site and the immediate surrounding land.
 - Assess the potential impacts of the proposed development.
 - Provide recommendations to mitigate against any impact on badgers.
- 1.5 All survey works were undertaken by experienced ecologists during suitable weather conditions and at an appropriate time of year.

2.0 Planning Policy and Legislation

Planning Policy

- 2.1 The National Planning Policy Framework (NPPF, 2019) places a clear responsibility on Local Planning Authorities (LPA) to contribute to conserving and enhancing the natural and local environment. LPAs should promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species (e.g. Species of Principal importance, Local Biodiversity Action Plan species); and identify and pursue opportunities for securing measurable net gains for biodiversity. The Office of the Deputy Prime Minister (ODPM) Circular 06/2005 provides administrative guidance on the application of the law in relation to planning and nature conservation.
- 2.2 A Local Planning Authority (LPA) has a duty to ensure that protected species and habitats within the UK are a 'material consideration' in the determination of a planning application. Therefore, an LPA is unlikely to determine an application until all relevant information relating to protected species or habitats is submitted to fully inform the application. Relevant information includes adequate surveys and, where required, mitigation strategies, which will need to be submitted to inform a planning application.

Legislation

- 2.3 Badgers and their active setts are protected under the Protection of Badgers Act (1992). The Protection of Badgers Act 1992 was designed to protect badgers from baiting and deliberate harm or injury. It also contains restrictions that apply more widely.
- 2.4 Under this legislation it is an offence to:
- Wilfully kill, injure or take, or attempt to kill, injure or take a badger.

- Cruelly ill-treat a badger, dig for badgers, use badger tongs, use a firearm other than the type specified under the exceptions within the Act.
- Intentionally or recklessly damage, destroy or obstruct access to any part of a sett.
- Disturb a badger whilst it is occupying a sett.
- causing a dog to enter a sett,
- Sell or offer for sale or possess a live badger,
- Have possession or control of a live badger.
- Mark a badger or attach any ring, tag, or other marking device to a badger.

2.5 A sett is defined as '*any structure or place which displays signs indicating current use by a badger*'. Natural England¹ advises that other structures used by badgers for shelter and refuge could also be classed as a sett, including spaces among rocks and boulders, under garden sheds and raised buildings, among hay bales and under hedges or bushes.

2.6 '*Current use*' is not the same as current occupation; even if the sett is unoccupied, if there are still signs of current use, it would be covered by the Act. There is no legal definition as to what 'signs of current use' are. Natural England advises¹ that sett entrances should be monitored over an extended period of time, e.g. up to 4 weeks, to establish whether a sett is in current use.

2.7 Developments with potential to disturb, destroy or obstruct an active badger sett will require a badger development licence from Natural England, which permits otherwise illegal actions.

2.8 An assessment needs to be undertaken by a competent Ecologist to determine if a badger sett will be affected by the works, to take into account specific site conditions and potential impacts. As a guide, a Natural England development licence will be required if destruction or interference of a badger sett, such as badger exclusion works takes place.

2.9 A licence is not normally needed for the following activities if it is unlikely to disturb a badger in its sett or damage a sett²:

- Work with hand tools or machinery above or below ground close to a sett.
- Clear vegetation near setts, including felling small trees or shrubs, provided they are not uprooted and do not block access to the sett.
- Clear ditches and watercourses using hand tools or machinery.

2.10 If the proposed development works are found to affect an active badger sett, a Natural England badger development licence will be required. Natural England's consultation period may take up to 30 working days to determine the outcome of the licence application. There are strict timing constraints associated with sett closure. Licences to exclude badgers and to close down or destroy a sett are only issued between 1 July and 30 November, other than in exceptional circumstances.

3.0 Methodology

Desktop Study

3.1 A desktop study involves contacting local record centres for existing records of badger. A desktop study was undertaken as part of the Preliminary Ecological Appraisal in April 2019. Merseyside Environmental Advisory Service (MEAS) and RECORD (Cheshire) were contacted for records up to 2km from the site.

¹ <https://www.gov.uk/guidance/badgers-surveys-and-mitigation-for-development-projects>

² <https://www.gov.uk/guidance/badgers-protection-surveys-and-licences>

Badger Survey Methodology

- 3.2 The badger survey entailed walking landscape features which are known to be suitable badger habitats, whilst looking for evidence of badgers.
- 3.3 Badger signs include:
- **Active and disused setts** - These include main setts (breeding setts), annexe setts, subsidiary setts and outlier setts. If setts are found, they will be examined for the presence of recently excavated spoil and discharged bedding material. See Appendix 1 for details of sett classification criteria and definitions of active and disused setts.
 - **Pathways** - Pathways used by badgers will be fully surveyed, particularly those linking different setts and those indicating the routes to territory boundaries and foraging areas.
 - **Latrines/dung pits** - Badger dung pits are shallow scrapes/pits in which dung is deposited. Latrines are collections of dung pits placed at strategic places e.g. setts (both inside and outside), boundaries of territories, pathways and foraging areas. All dung pits and latrines will also be recorded.
 - **Footprints** - The searches will record footprints in soft ground.
 - **Hairs** – Badger guard hairs, are distinctive and often get caught on vegetation or fences; such features will be checked.
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- 3.4 The survey effort will concentrate within the development site and 30m outside the site, following pathways and extending the survey area, to locate distant badger setts. The area of the wider survey area will be determined during the survey based on the evidence found.
- 3.5 Land use and management relevant to badgers will also be recorded to enable assessment of the foraging potential for badgers.

Timing

- 3.6 Signs of badger can be found by an experienced ecologist throughout the year. Optimal survey periods are between February to May (peak territorial activity and low vegetation cover) and can on occasions be considered during October (less pronounced peak in territorial activity and medium vegetation cover). Sub-optimal survey periods are June to September when vegetation levels are high and field signs are both less abundant and obvious, and November to January when badgers are less active and spend more time underground.
- 3.7 If a survey is completed during sub-optimal periods and is inconclusive due to dense vegetation rendering habitats unsearchable, then there may be a requirement to re-survey at a more appropriate time of year.
- 3.8 The badger survey was undertaken on the 20th March 2020 during a peak period.

Personnel

- 3.9 All survey works were undertaken by experienced Consultant Ecologists Miss C. Wood BSc (Hons), MSc and Mr. C. Smith BSc.

Limitations

- 3.10 Access was not granted to survey some parts of the 30m buffer or the wider survey area as a percentage of the surrounding land is occupied by residential properties and arable fields

(where access was not possible). It is considered that the residential gardens and arable fields could be used for foraging and potentially sett building. However, the site boundaries were walked and inspected in full and no evidence of badger such as pathways leading into the residential properties or arable fields was found.

4.0 Results and Evaluation

Desktop Study Results

- 4.1 The desktop study undertaken as part of the Preliminary Ecological Appraisal in 2019 identified no records of badger within 2km of the proposed development.

Habitat Description

- 4.2 Habitats within the site are considered suitable to support badger with areas within 30m of the site also being appropriate, providing suitable foraging habitat as well as sett building opportunities. Suitable habitat includes grassland, woodland, dense scrub, scattered trees, hedgerows and arable fields.
- 4.3 The farm buildings and associated areas of hard standing present within the site have lower potential for sett building and no setts were identified but may provide foraging habitat for badger, although no evidence of foraging was found during the survey.
- 4.4 With regards to connectivity between the site and the wider countryside, the land surrounding the south and east of the site is largely built upon with dense areas of residential buildings offering little or no potential for dispersal or recruitment due to physical barriers. There is connectivity to the north and west of the site which is largely arable fields with a small number of residential properties along Chapel Lane.

Badger Survey Results

- 4.5 All accessible areas within the development footprint and within 30m of the site boundary, were surveyed for the presence of badger, as shown on Figure 1. Land access was not possible to survey the residential gardens to the south of the site, to the west of Chapel Lane or the arable fields to the north. However, the boundaries of the site were walked in full and inspected. No evidence of badger was identified.
- 4.6 The previous Extended Phase 1 Habitat Survey identified a probable badger sett with approximately ten holes, located in woodland in the wider survey area on the banks of a dry ditch on the north eastern site boundary. At the time of the Extended Phase 1 survey, the holes appeared to be active but could not be closely inspected at the time.

Mammal Holes

- 4.7 During the badger survey, the holes identified in the Extended Phase 1 Survey were inspected and 12 holes were found along the southern bank of the dry ditch that were of a size and shape to permit entry by badger. The holes receded to the south into the woodland (away from the site). Some of the holes had collapsed inside and many were covered with leaf litter.
- 4.8 No evidence of badger was found in any of the holes or in the vicinity of the holes, therefore it is considered that they are not in use by badger. There was extensive evidence of use by rabbit and multiple other smaller mammal holes that also showed evidence of use by rabbit.
- 4.9 An isolated mammal hole of a size and shape to permit badger was identified approximately 235m to the south of the group of mammal holes. On the eastern bank of the dry ditch. The hole could not be closely inspected, due to dense scrub but the tunnel appeared to recede east into the woodland and the entrance was obscured by bramble and filled with leaf litter.

Binoculars were used to inspect the hole and surrounding area and no evidence of recent use by badger such as fresh spoil or pathways through the scrub leading to the hole was identified.

- 4.10 No other setts or prospective setts were found on site or within 30m of the site where access was available.

Pathways

- 4.11 The survey found a small number of mammal pathways on site and within 30m of the site. None of the pathways could be positively attributed to badger. The main pathway identified on Figure 2, is located in a field that is grazed by cattle and sheep and therefore, is likely to have been caused by livestock.
- 4.12 A partial pathway was present leading from the field in the east of the site through the hedge onto Sandy Lane, a road which is closed to traffic but used often by pedestrians.
- 4.13 Pathways were also present in the woodland in the south of the site, however this area is open to the public and there was evidence of extensive use by dog walkers.

Other Badger Signs

- 4.14 The survey found no evidence of latrines/dung pits, footprints, hairs, feeding or scratching/markings within the site or within the 30m wider survey area.

5.0 Impacts and Recommendations

- 5.1 The desktop study undertaken as part of the Extended Phase 1 survey in 2019 found no records of badger within 2km of the site.
- 5.2 The 2020 badger survey identified multiple mammal holes of a size and shape to support badger on the southern bank of the dry ditch in the wider survey area to the north east of the site. No evidence of badger was identified around or in the vicinity of these holes or elsewhere on the site or in the 30m wider survey area, therefore, they are not considered to be currently used by badger.
- 5.3 If the holes were to become occupied by badger, it is considered that there will be no direct impacts to the mammal holes by the proposed development as they are located outside of the site, in the wider survey area. All of the tunnels are leading away from the site into the woodland and are located on the banks of a deep ditch which acts as a barrier to any potential tunnels leading into the site.
- 5.4 In the unlikely event that the holes were to become occupied by badger in the interim time between the survey being undertaken and the development works commencing, indirect impacts such as disturbance caused by the development works may occur.
- 5.5 A guideline distance of 30m from any active sett provides an indication of the potential for disturbance to badgers. No badger setts were found within the proposed development site or the surrounding 30m boundary and no badger pathways or any other signs were observed throughout the survey area. Therefore, there are no apparent implications with regards to development and badgers at the time of survey.
- 5.6 As there is the potential for the mammal holes to become occupied by badger in the interim time between this survey being undertaken and the works commencing and therefore the potential for disturbance to occur during the development, it is recommended that a precautionary pre-commencement check is undertaken prior to works beginning on site.

Contractors must be mindful of the potential for badgers at all times. If a badger/s is/are or a badger sett/s is/are identified or suspected during the works then all works must cease and the ecologist notified for advice.

- 5.7 If no works have been undertaken within a year of this report, an updated survey should be undertaken.

6.0 References

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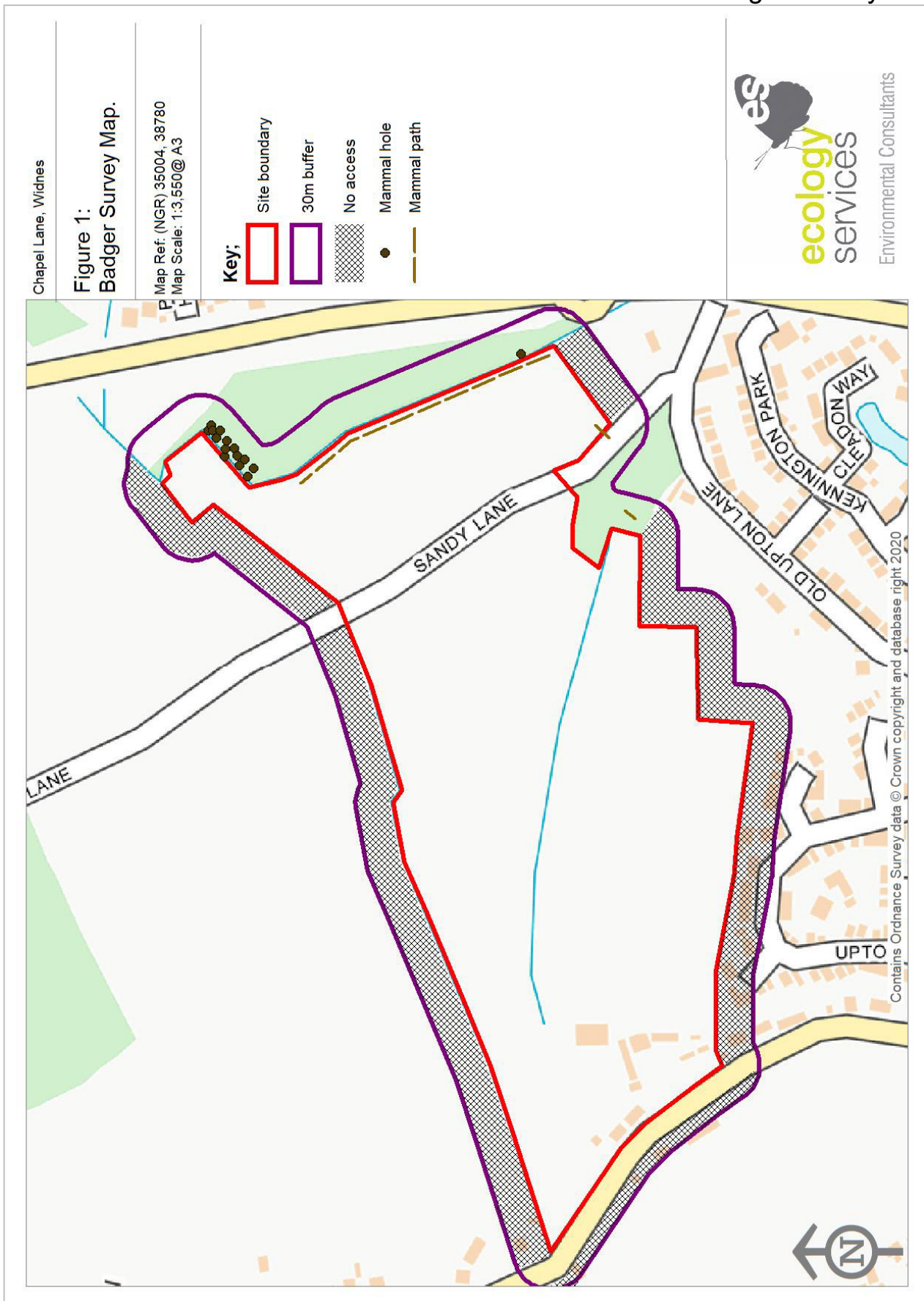
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Figure 1:
Badger Survey Plan



Appendix 1

Badger Sett Classification/ Hole Usage Criteria

Sett Classification

Sett categorisation was first defined by Hans Kruuk (1978) who defined setts as main, annexe and outlier. Penny Thornton (1988) defined another category, the subsidiary sett. These categories were used in the two National Surveys of Badgers in the 1990s and 2011-13 and have been used throughout the UK in subsequent surveys and in Europe.

Main setts: These usually have a large number of holes with large spoil heaps, and look well used. They usually have well used paths to and from the sett and between sett entrances. Although normally the breeding sett and in continual use all year round, it is possible to find a main sett that has become disused because of excessive disturbance or for some other reason. There is one main sett per social group and there are usually other signs of social activity (scratch trees or play area). There can be cohabittees such as foxes, rabbits and rats.

Annexe setts: These are always close to a main sett (<150 m) and are usually connected to the main sett by one or more obvious, well-worn paths. They usually consist of several holes, but are not necessarily in use all the time, even if the main sett is very active.

Subsidiary setts: Often these have only a few holes (typically 4-5), are usually at least 50 m from a main sett, and do not have an obvious path connecting them with another sett. They are not continuously active (seasonally used) and have smaller spoil heaps. Because they are not in continuous use they are more likely to be exploited by rabbit, fox etc.).

Outlying setts: These usually only have one or two holes, often have little spoil outside the entrance(s), have no obvious path connecting them with another sett, and are only used sporadically. Because they are not in continuous use they are more likely to be exploited by rabbit, fox etc.).

Hole Usage Criteria

Well used setts are clear of debris or vegetation, may or may not have been excavated recently but are obviously in regular use.

Partially used setts have some debris or vegetation in the holes, but would require a minimal amount of clearance to re-open them. They are not in regular use.

Disused setts are partially or completely blocked, would require a considerable amount of clearance to re-open them. They will not have been used for some time.

Thornton, P. S. (1988) Density and distribution of badgers in south-west England - a predictive model. Mammal Review, 18, 11-23.

Appendix 2

Badger Set Classification/ Hole Usage Criteria

Sett Classification

Sett categorisation was first defined by Hans Kruuk (1978) who defined setts as main, annexe and outlier. Penny Thornton (1988) defined another category, the subsidiary sett. These categories were used in the two National Surveys of Badgers in the 1990s and 2011-13 and have been used throughout the UK in subsequent surveys and in Europe.

Main setts: These usually have a large number of holes with large spoil heaps, and look well used. They usually have well used paths to and from the sett and between sett entrances. Although normally the breeding sett and in continual use all year round, it is possible to find a main sett that has become disused because of excessive disturbance or for some other reason. There is one main sett per social group and there are usually other signs of social activity (scratch trees or play area). There can be cohabitants such as foxes, rabbits and rats.

Annexe setts: These are always close to a main sett (<150 m) and are usually connected to the main sett by one or more obvious, well-worn paths. They usually consist of several holes, but are not necessarily in use all the time, even if the main sett is very active.

Subsidiary setts: Often these have only a few holes (typically 4-5), are usually at least 50 m from a main sett, and do not have an obvious path connecting them with another sett. They are not continuously active (seasonally used) and have smaller spoil heaps. Because they are not in continuous use they are more likely to be exploited by rabbit, fox etc.).

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