

A358 Taunton to Southfields Dualling Hazel Dormouse Technical Report

PCF Stage 2

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Table of contents

Executive summary	
1. Introduction	0
1.1. Background	0
1.2. Scheme proposal	2
1.3. Purpose of the report	3
1.4. Scope of report	3
1.5. Legislation	4
1.6. Status of hazel dormouse at a national level	5
1.7. Status of hazel dormouse at a county level	5
1.8. Hazel dormouse ecology	6
2. Methodology	7
2.1. Desk study	7
2.2. Habitat assessment	7
2.3. Field survey	7
2.4. Site status assessment	9
2.5. Survey constraints	9
3. Results	11
3.1. Desk study	11
3.2. Habitat assessment	11
3.3. Nest tube surveys	21
3.4. Population estimate	22
3.5. Site status	24
4. Conclusion	25
Appendices	26
Appendix A – Location of dormouse survey sites	0
Appendix B – Dormouse nest tube locations	1
Figures	
Figure 1:1 : A358 Taunton to Southfields existing road layout	0
Figure 1:2 : A358 Taunton to Southfields existing road layout	2
Figure 1:3 : Pink Modified option	3
Figure 3:1 : Site 6 habitat example	12
Figure 3:2 : Site 7 habitat example	12
Figure 3:3 : Site 9 / 9a habitat example	13
Figure 3:4 : Site 12 habitat example	14
Figure 3:5 : Site 13 habitat example	14
Figure 3:6 : Site 14 habitat example	15
Figure 3:7 : Site 15 habitat example	16
Figure 3:8 : Site 16 habitat example	17
Figure 3:9 : Site 17 habitat example	17
Figure 3:10 : Site 18 habitat example	18

Figure 3:11 : Site 19 habitat example	19
Figure 3:12 : Site 20 habitat example	19
Figure 3:13 : Site 21 habitat example	20
Figure 3:14 : Site 22 habitat example	21
Figure 3:15 : Site 23 habitat example	21

Tables

Table 2:1 : Index of probability of finding hazel dormice present in nest tubes in any one month	8
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Executive summary

The proposed A358 Taunton to Southfields scheme aims to provide a dual carriageway along the length of the A358 between Taunton and Ilminster in Somerset, connecting the A303 at Ilminster to the M5 motorway to the north. The scheme would include grade separated interchanges and, with the purpose of providing a high-quality free flow journey for those using the route, the removal of at-grade junctions and direct accesses.

Suitable hazel dormouse habitat was identified whilst undertaking an extended Phase 1 habitat survey in 2016, it was therefore recommended that further surveys for dormice should be undertaken. A desk study was undertaken in March 2017 and identified 18 suitable survey sites across the scheme. The 18 sites were assigned survey areas 6, 7, 9, 9a, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22 and 23. All sites surveyed within 250m of the Pink Modified option confirmed the presence of dormice or evidence of dormice. Sites that now fall outside the 250m buffer also confirmed the presence of dormice, these have been included in Appendix A and C to give a wider picture of dormouse distribution in the wider area.

No surveys have been undertaken at sites 7, 10, 20, 21 and 22 as no access has been agreed. However, these are connected to sites with confirmed dormouse presence. As such, presence of dormice has been assumed at these sites.

The report does not provide any detailed impact assessment or recommendations for mitigation as this aspect will be developed during PCF Stage 3 of the scheme.

1. Introduction

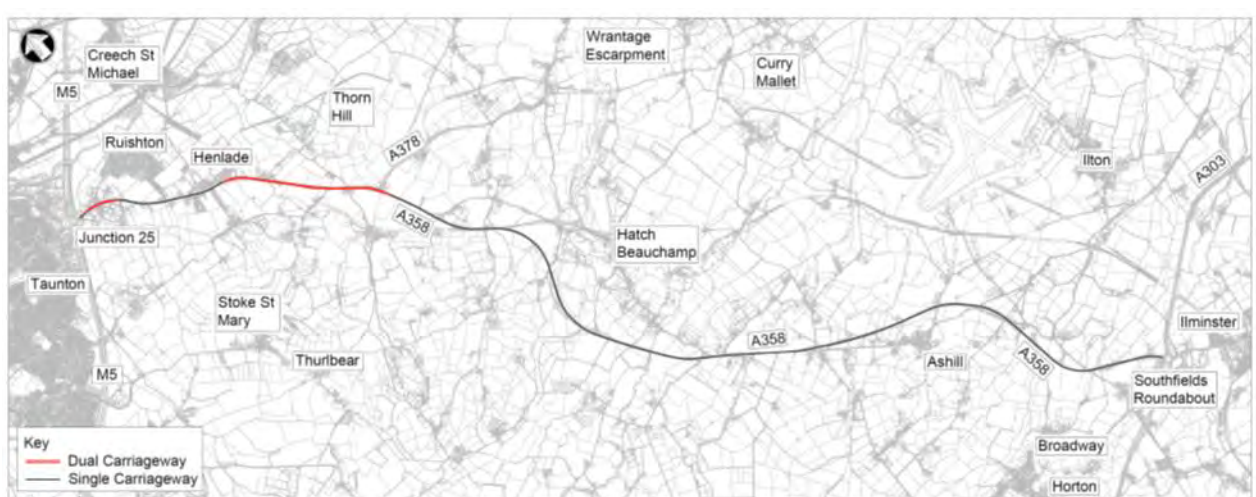
1.1. Background

1.1.1. The A303 / A358 corridor is a vital connection between the south-west, London and the south-east. Due to the population density, employment opportunities, urban concentrations and tourist attraction of the South West the A303 / A30 / A358 corridor experiences a wide range of traffic flows which lead directly to severe and regular instances of congestion and delay.

1.1.2. The A303 / A30 is part of the strategic road network (SRN) and together with the A358 forms a key strategic link between the South West Peninsular (SWP) and the rest of the south, south-east and London. Although it is dualled over much of its length there are several unimproved single carriageway sections between the M3 motorway at Basingstoke and the M5 at Taunton and Exeter which cause congestion, especially during summer weekends.

1.1.3. The existing A358 between Taunton and Southfields Roundabout is predominantly single carriageway with a short (1.1 miles) dual carriageway section in the vicinity of Thornfalcon and a 3 lane (2+1) section (0.3 miles) immediately to the south of that. It has many side roads and private accesses directly onto it. The national speed limit applies between Southfields and Henlade where it reduces to 30mph; the speed limit increases to 40mph north of Henlade on the approach to M5 Junction 25. A plan showing the existing route between Taunton and Southfields is provided in Figure 1:1.

Figure 1:1 : A358 Taunton to Southfields existing road layout

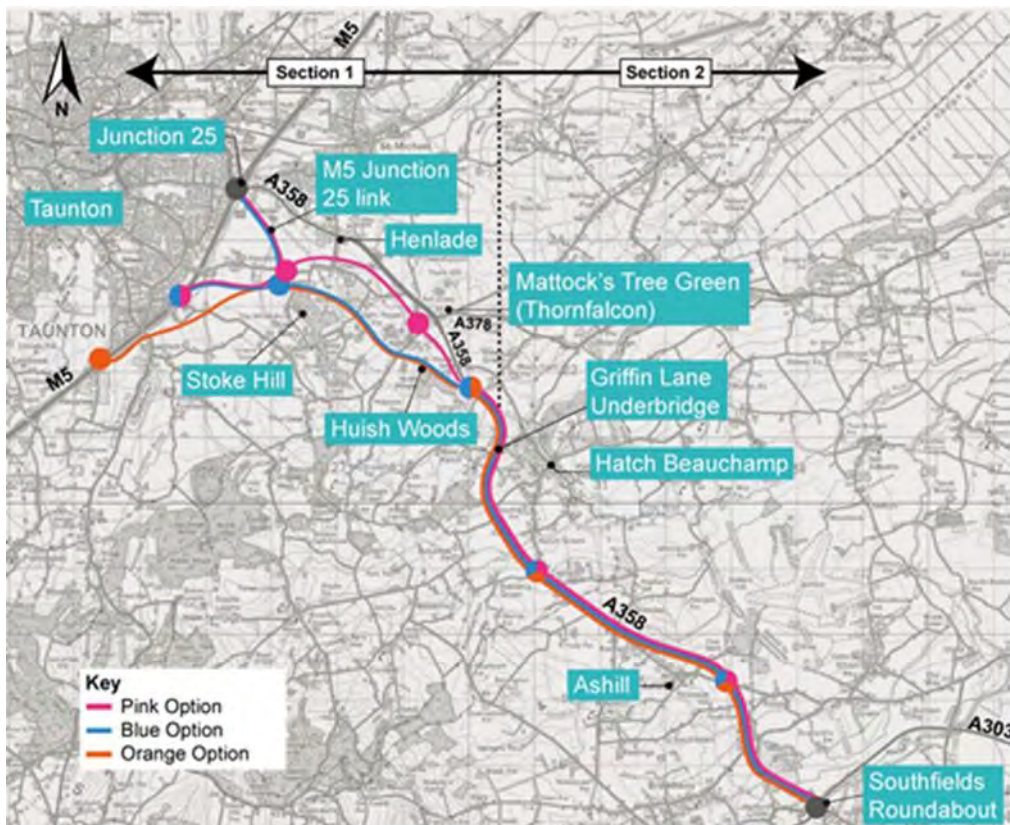


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1.1.4. The three route options presented at the 2018 consultation are described and shown in Figure 1:2 below:

- The **Pink option** commences at a new junction on the M5 approximately 1.2 miles (2 kilometres) south of junction 25. South-facing slip roads from the M5 would combine to become the new dual carriageway, which runs eastwards and north of Stoke Hill. Here a limited-movement junction is proposed with east-facing slip road connections to the new road which would allow traffic to travel between the new A358 and junction 25 via a new 0.9 mile (1.5 kilometre) dual carriageway link past the planned Nexus 25 site. The proposed route would then follow the existing A358 to Southfields Roundabout enabling the existing road to be upgraded from a single to a dual carriageway. The total length of the Pink option is 9 miles (14.6 kilometres), plus the 0.9 miles (1.5 kilometres) spur leading to M5 junction 25.
- The **Blue option** commences at the M5 approximately 1.2 miles (2 kilometres) south of junction 25 and runs eastwards on a more southerly alignment. At Stoke Hill a junction is proposed similar to that with the Pink option which would allow traffic to travel between the road and junction 25 via a new 1.2 miles (2 kilometres) dual carriageway link past the planned Nexus 25 site. The road would then continue in a south-easterly direction to West Hatch Lane, where an all-movement, grade separated junction is proposed to allow access to Hatch Beauchamp, Henlade and surrounding communities, and the A378. This option is identical to the Pink option from this point onwards to Southfields Roundabout. The total length of the Blue option is 8.7 miles (14.1 kilometres), plus the 1.2 miles (2 kilometres) spur leading to M5 junction 25.
- The **Orange option** commences at the M5 approximately 2.1 miles (3.5 kilometres) south of junction 25 at a proposed new 2-bridge roundabout which would form a new all-movements junction between the new A358 and the motorway. The proposed road initially takes a north-easterly course towards Henlade before arcing around the north of Stoke Hill. In contrast to the Blue option, there is no link to junction 25 from this location, and therefore no junction at Stoke Hill. This option is identical to the Blue option from this point onwards. The total length of the Orange option is 9.5 miles (15.3 kilometres).

Figure 1:2 : A358 Taunton to Southfields existing road layout



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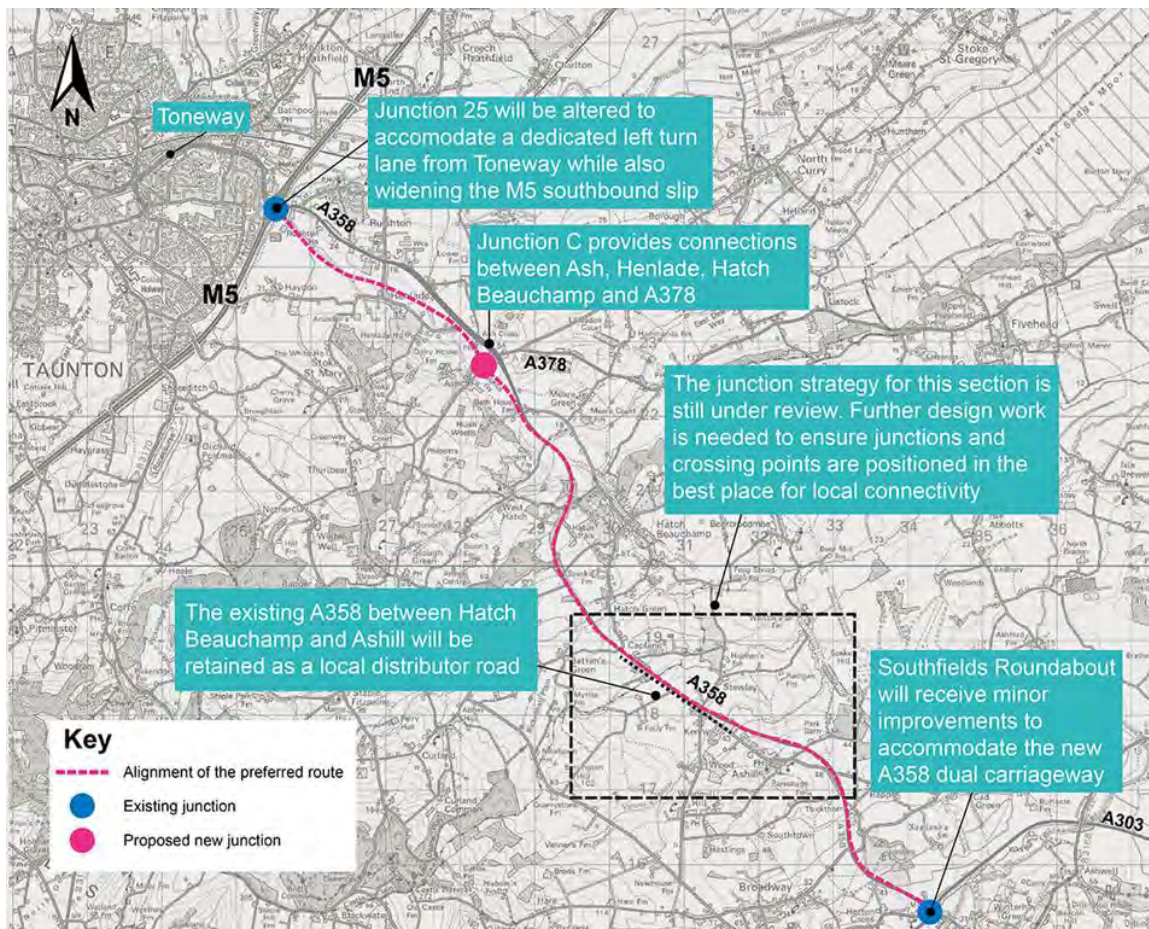
1.2. Scheme proposal

1.2.1. The proposed scheme would provide a dual carriageway along the length of the A358 between Taunton and Ilminster in Somerset, connecting the A303 at Ilminster to the M5 motorway to the north. The scheme would include grade separated interchanges and, with the purpose of providing a high quality free flow journey for those using the route, the removal of at-grade junctions and direct accesses.

1.2.2. The Preferred Route Announcement (PRA) on the 13 June 2019 identified the Pink Modified option as the preferred route option.

1.2.3. The Pink Modified option would comprise online widening between West Hatch Lane and Southfields Roundabout. This option would involve the re-use of a large amount of the existing A358 corridor, and between West Hatch Lane and Henlade the route would pass close to the A378 junction at Mattocks Tree Green. This would enable direct interchange between the proposed road and the A378. The Pink Modified option retains bypasses Henlade, connects with the A378, and connects directly to junction 25 on the M5. A plan showing the Pink Modified option is shown in Figure 1:3 below.

Figure 1:3 : Pink Modified option



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1.3. Purpose of the report

1.3.1. This Hazel Dormouse Technical Report has been prepared during Stage 2 of the Highways England's Project Control Framework (PCF). This Technical Report provides an overview of the hazel dormouse surveys undertaken in 2017 within 250m of the Pink Modified option. The report provides methods, constraints and results of the dormouse surveys undertaken for the scheme.

1.4. Scope of report

1.4.1. The objectives of the report are:

- to present the methodology, constraints and results of the hazel dormouse survey
- provide a dormouse population estimate
- a site status assessment

1.4.2. The report does not provide any detailed impact assessment or recommendations for mitigation as this aspect will be developed by Arup during PCF Stage 3 of the scheme.

1.4.3. Guidance on ecological assessment recommends that all ecological features that occur within a zone of influence (Zol) for a proposed scheme are investigated (Chartered Institute of Ecology and Environmental Management (CIEEM), 2018)¹. All areas within 250m of the Pink Modified option proposed were assessed for dormouse habitat suitability.

1.5. Legislation

Legal protection

1.5.1. The hazel dormouse is fully protected by the *Conservation of Habitats and Species Regulations 2017* (as amended), which transposes the *Council Directive 92/43/ECC* (known as the Habitats Directive) on the conservation of natural habitats and of wild fauna and flora into UK law. Hazel dormice are also protected under the *Wildlife and Countryside Act 1981* (as amended).

1.5.2. Under Regulation 43 of the *Conservation of Habitats and Species Regulations* it is illegal to:

- intentionally or deliberately injure, kill or take any wild dormouse
- intentionally or deliberately damage, destroy or obstruct any access to any structure or place used for shelter, breeding, or protection by a dormouse
- or to intentionally or recklessly disturb a dormouse whilst it is using such a structure
- or place possess or advertise / sell / exchange a dormouse (dead or alive) or any part of a dormouse

1.5.3. Under Schedule 5 of the *Wildlife and Countryside Act 1981* it is illegal to:

- intentionally or deliberately kill, injure or take any wild hazel dormice
- intentionally or deliberately damage, destroy or obstruct any access to any structure or place used for shelter, breeding, or protection by a dormouse
- or to intentionally or recklessly disturb a dormouse whilst it is using such a structure or place
- possess or advertise / sell / exchange a dormouse (dead or alive) or any part of a dormouse

¹ Chartered Institute of Ecology and Environmental Management (2018) Guideline for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal.

1.5.4. The hazel dormouse is a European Protected Species under Annex IV of the Habitats Directive and under the Bern Convention 2 lii, and is on the IUCN Red List.

1.5.5. The *UK Biodiversity Action Plan (UK BAP) 1994 – 2010* has been superseded by the UK Post-2010 Biodiversity Framework covering the period 2011 - 2020.

1.5.6. UK BAP priority habitats and species were used to form the basis for the statutory list of habitats and species of ‘principal importance for the conservation of biodiversity in England’ under Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006*.

1.5.7. Section 40 of the *NERC Act 2006* requires public bodies, including local authorities, ‘to have regard to the conservation of biodiversity in England’ when carrying out their normal functions. The local planning authority therefore must consider the impact on biodiversity of the proposed development. The *NERC Act* identifies species of ‘principal importance for the conservation of biodiversity in England’ (Section 41) to guide public bodies in implementing their duty. This priority list includes dormice. The strategic direction for biodiversity policy for the next decade is set out in the national strategy for England Biodiversity 2020.

1.6. Status of hazel dormouse at a national level

1.6.1. Hazel dormice are native to the UK but are nationally rare and vulnerable to extinction, largely due to habitat loss. They are a species of principal importance for the conservation of biodiversity in England under the *NERC Act (2006)*. Although the exact size of the UK population is unknown, there has been a long-term decline in both number of individuals and their geographical range.

1.6.2. Their distribution is predominantly confined to southern England and southern Wales and is fragmented throughout. Dormouse monitoring programmes have recently provided an indication that the decline is slowing and as part of an ongoing hazel dormouse reintroduction programme, the current range is slowly being extended².

1.7. Status of hazel dormouse at a county level

1.7.1. Hazel dormice are found throughout Somerset. They are a ‘County Notable’ species and the subject of the Taunton Deane District Council and Exmoor National Park Biodiversity Action Plans³. Natural England has identified high priority areas for action nationally including areas within Taunton Deane.

² People’s trust for endangered species (2018) Hazel (or Common) dormouse [online] available at: <https://ptes.org/get-informed/facts-figures/hazel-common-dormouse-muscardinus-avellanarius/> (last accessed November 2018).

³ Somerset Highways (2006) *Somerset Highways Biodiversity Action Plans, Species Action Plans*.

1.8. Hazel dormouse ecology

1.8.1. Dormice are highly arboreal preferring to move between understory, hedgerows, woodlands and scrub during the active season (April to November).

1.8.2. They are reluctant to cross open ground and are believed to rarely descend to ground level except for when hibernating over the winter. They have complex structural habitat requirements including connective habitat to forage and for dispersal, presence of a range of different tree and scrub species that will provide suitable food year-round, and nesting habitat for shelter, breeding and hibernation⁴. They are primarily associated with deciduous woodland (containing oak *Quercus robur*, hazel *Corylus avellana*, honeysuckle *Lonicera japonica* and bramble *Rubus fruticosus*) and species-rich hedgerows⁵, although they have been found in a range of other habitats such as coniferous woodland, scrub and heathland.

⁴ Highways England (2001) Design Manual for Roads and Bridges, Volume 10, Section 4, Part 5 HA 97 / 01 Nature Conservation Advice in Relation to Dormice [online] available at: <http://www.standardsforhighways.co.uk/ha/standards/dmr/vol10/section4.htm> (last accessed April 2018).

⁵ Bright, P. W., Morris, P. A., and Mitchell-Jones, A., (2006) Dormouse Conservation Handbook. English Nature.

2. Methodology

2.1. Desk study

2.1.1. A detailed biological records search was requested from Somerset Environmental Records Centre (SERC) in 2017, within a 2 kilometre radius of the scheme. The records search was undertaken for all scheme options under consideration at the time, including the Pink Modified option.

2.1.2. All potentially suitable habitats with potential to be impacted by the three scheme options under consideration at the time (Option A, B and C), were identified using the Department for Environment Food and Rural Affairs (Defra) Multi Agency Geographic Information for the Countryside (MAGIC) online viewer tool (Defra 2017), the use of 1:10,000 Ordnance Survey Mapping and aerial photography.

2.2. Habitat assessment

2.2.1. An extended Phase 1 habitat survey was undertaken in May 2016 and suitable habitat for dormice was identified within 250m of the three scheme options. Sites identified during the desk study were subject to ground truthing to assess their suitability, where access was permitted.

2.2.2. Hedgerows, woodland and scrub within 250m of the scheme were assessed further for their suitability to support dormice using the following criteria:

- age range of trees and shrubs
- level of diversity of trees and shrubs
- level of suitability of trees and shrubs
- availability of key food sources
- connectivity to wider landscape via suitable habitats
- signs of dormice presence; for example, open nuts and nests

2.3. Field survey

2.3.1. The dormouse survey methodology followed the *Dormouse Conservation Handbook*⁶. The guidelines recommend that a minimum of 50 nest tubes are deployed in suitable and connected habitat in order to determine the presence or likely absence of dormice. The nest tubes should be checked monthly during the active season (April to November inclusive).

⁶ Bright, P. W., Morris, P. A., and Mitchell-Jones, A., (2006) *Dormouse Conservation Handbook*, second edition. English Nature.

2.3.2. The Dormouse Conservation Handbook suggests an index of probability of finding dormice for each month outside of the dormouse hibernation season (Table 2:1). This is used as a basis to calculate the necessary survey effort to make a robust conclusion of presence or likely absence. The table below assumes that 50 tubes have been placed in suitable habitat.

2.3.3. It is recommended that absence should not be assumed on a score of less than 20. It is not possible to wholly prove the absence of dormice from areas of suitable habitat; however, an adequate survey will give confidence that significant populations have not been overlooked.

Table 2:1 : Index of probability of finding hazel dormice present in nest tubes in any one month

Month	Index of probability
April	1
May	4
June	2
July	2
August	5
September	7
October	2
November	2

Source: *Dormouse Conservation Handbook*. English Nature.

2.3.4. Three route options were originally scoped for suitable dormouse habitat. The habitat identified as being suitable for dormice within 250m of the scheme consisted of woodland and hedgerows. Within these distinct areas of suitable habitat, 24 survey sites were identified. Eighteen of these sites are located within 250m of the Pink Modified option.

2.3.5. Due to access restrictions, 11 of the 18 sites within 250m of the Pink Modified option were subject to nest tube surveys. The dormouse nest tube surveys were set up from the end of February and mid-May 2017. Set up dates varied as land access was not granted to all areas at the start of the survey season. A minimum of 50 tubes were deployed at each site. A site map which shows the locations of the sites is presented in Appendix A and the nest tube locations are presented in Appendix B.

2.3.6. In order to achieve a points score of 20, the tubes were checked for the evidence of dormice once in each month between April and November 2017 or until the presence of adult or juvenile dormice had been confirmed. In one instance (site 6), surveys ceased when dormouse nests had been identified as this was enough to prove presence.

2.3.7. Some sites were set up later in the year due to land access restrictions, these sites were surveyed until 20 points were achieved or the presence of adult or juvenile dormice had been confirmed. All surveys were carried out in suitable weather conditions (dry and no strong winds) and by competent ecologists, with surveys led by a Natural England class survey licence holder. The dates and weather condition for each survey undertaken are detailed in Appendix C.

2.4. Site status assessment

2.4.1. Following the completion of the surveys, an assessment of the status of the project site as a whole was then made. The importance of the site takes into account the population estimate but also several other factors:

- The quality and rarity of the habitat and population
- How connected the population is to the wider area
- The local significance of the population
- The estimated size of the population.

2.5. Survey constraints

2.5.1. Due to the extent of suitable habitat across the scheme and the size of the scheme a proportionate approach was taken when identifying dormouse survey sites. The surveys were concentrated on larger blocks of broadleaved woodland within 250m of the scheme footprint or connected to suitable habitat within 250m of the scheme footprint. Hedgerows directly impacted by the scheme were also targeted. This is not considered a limitation of the survey as the survey sites chosen are of high-quality habitat, well connected by a network of hedgerows, smaller woodland blocks and a dismantled railway.

2.5.2. No surveys have been undertaken at sites 7, 10 and 11 as no access permissions to date have been given. However, site 7 is connected to site 8 by a network of hedgerows (now over 250m from the scheme) that confirmed the presence of dormice. Site 10 is connected to site 12 via the A358 vegetative corridor and arboreal connectivity, which has also confirmed the presence of dormice. Site 11 is connected to site 13 by highways planting and hedgerows, which has confirmed the presence of dormice. Site 9a is in the same block of woodland as site 9 which has the confirmed presence of dormice. As such, presence of dormice has been assumed at these sites.

2.5.3. Since 2017 access has been granted to sites 20, 21 and 22 and a habitat assessment undertaken in 2019 confirmed the sites provide optimal habitat for dormice. As sites 20, 21 and 22 are connected arboreally by a network of hedgerows to site 17 and 18 where dormice populations have been identified, presence has been assumed at these sites.

2.5.4. A meeting with Natural England held in April 2019 agreed that presence could be assumed on sites not surveyed to the south of scheme, assuming there was connecting habitat to where they had been found⁷. The south sites (20, 21 and 22) were specifically discussed with Natural England to agree if we could assume presence here due to the distance between the south sites and confirmed dormouse sites.

2.5.5. One-hundred tubes were deployed at site 13; 75 were deployed along the edge of the woodland next to the A358 and connecting hedgerow, and 25 in Bickenhall Wood. Only 43 of the tubes were checked for the presence of dormice due to health and safety concerns over the growth of vegetation within increased proximity to the A358. However, dormice were identified at this site and therefore this is not considered a limitation to the survey.

2.5.6. The July surveys for site 9 revealed that two tubes had been damaged and two inserts were found to be missing. To compensate for this, four new nest tubes were added in August.

2.5.7. Hedgerows and highways planting (native tree planting along a highways soft estate) along the A358 corridor is considered suitable for dormice but the majority of this could not be surveyed due to health and safety concerns over the proximity to the A358. However, dormouse sites 12, 13, 15, 16, 17, 18, 19 and 24 located within the A358 corridor and deemed safe to survey have confirmed the presence of dormice. It is therefore assumed likely that dormice are present along the A358 corridor.

2.5.8. Following the preferred route announcement (PRA) of the Pink Modified option, dormouse sites 1, 2, 3, 4, 5 and 8 are no longer within 250m of the scheme. However, the data recorded at these sites is presented in Appendix C for completeness and to give additional context for the status of dormice within the wider area.

⁷ Natural England Meeting Minutes, 4th April 2019.

3. Results

3.1. Desk study

3.1.1. Biological records obtained from Somerset Environmental Records Centre (SERC) revealed there were 19 records of dormice within 2 kilometres of the scheme. The most recent at Creech St Michael in 2010, located approximately 1.59 kilometres north of the scheme. The closest record to the scheme footprint was at Stoke Wood in 1997 located approximately 562m south of the scheme.

3.2. Habitat assessment

3.2.1. All habitat within 250m of the scheme was assessed for its suitability to support dormice. Due to the extent of the suitable habitat and large extent of the scheme; 17 dormouse survey sites were chosen stretching across the scheme located within larger blocks of woodland and connecting habitat within 250m. These sites were then subject to a habitat assessment when access became available. Each sites habitat is described in more detail in the sections below. A site map which shows the locations of the sites is presented in Appendix A.

Description of habitats

3.2.2. The 18 survey sites are described in more detail in the sections below. Appendix B shows the locations of the dormouse tubes within the 11 sites subject to a nest tube survey.

Site 6

3.2.3. Site 6 lies directly within the scheme footprint towards the northern end of the scheme and consists of a native hedgerow with trees which borders arable fields. The hedgerows have good connectivity to the surrounding landscape and other areas of suitable dormice habitat. The site comprises approximately 1.3 kilometres of linear hedgerow habitat. Hedgerow species present include blackthorn *Prunus spinosa*, hawthorn *Crataegus monogyna*, field maple *Acer campestre*, dogwood *Cornus sanguinea*, English elm *Ulmus procera* and mature willow sp *Salix sp.*

3.2.4. Figure 3:1 overleaf demonstrates the type of habitat present at site 6.

Figure 3:1 : Site 6 habitat example



Site 7

3.2.5. Site 7 is located 158m from the Pink Modified option. It is located within a disused railway line measuring 661 linear metres. There is an abundant availability of food sources and it is well connected to other areas of suitable dormouse habitat. The disused railway comprises ash *Fraxinus excelsior*, sycamore *Acer pseudoplatanus* and hazel with an understorey of blackthorn, field maple, hawthorn, dogwood, hedge bindweed *Calystegia sepium*, wild privet *Ligustrum vulgare* and bramble. Site 7 has connections to site 8, which supports dormice but is no longer within 250m of the Pink Modified option.

3.2.6. Figure 3:2 below demonstrates the type of habitat present at site 7.

Figure 3:2 : Site 7 habitat example



Site 9 / 9a

3.2.7. Site 9 and 9a (Huish Woods and Huish Copse East) lies 247m (at its closest point) east of the scheme. Huish Copse East is designated an ancient semi-natural woodland and Huish Woods is designated a Local Wildlife Site (LWS) it consists of a large, mature broadleaved woodland covering a combined area of approximately 11.30 hectares with a good diversity of understorey and structure. There is good availability of

food sources and it is well connected by hedgerows to further areas of dormouse habitat. The woodland canopy consists of ash, oak with an understorey of coppice hazel, field maple, hawthorn, blackthorn, elder *Sambucus nigra* and bramble. Ground flora comprises dog's mercury *Mercurialis perennis*, ivy *Hedera helix*, black horehound *Ballota nigra* and enchanter's nightshade *Circaea lutetiana*.

3.2.8. Figure 3:3 below demonstrates the type of habitat present at this site.

Figure 3:3 : Site 9 / 9a habitat example



Site 10

3.2.9. Site 10 is partially located within the scheme footprint, within a disused railway and measures 438m. It has good connectivity to further areas of dormouse habitat in the wider landscape. No access has been granted to this woodland for dormouse surveys and therefore no habitat assessment or photos have been taken. It is well connected to site 12.

Site 11

3.2.10. No access has been granted to this woodland for dormouse surveys and therefore no habitat assessment or photos have been taken. This woodland is well connected to the wider landscape by a network of hedgerows and arboreal connectivity, it is also connected to site 13.

Site 12

3.2.11. Site 12 is located within the soft estate of the A358 and consists of a linear belt of highways planting connecting to a small woodland block. The site is directly linked to continuous highways planting and is connected to the wider landscape by a network of hedgerows and measures approximately 845m. The highways planting largely comprises field maple, blackthorn, ash, hawthorn with areas of bramble.

3.2.12. Figure 3:4 overleaf demonstrates the type of habitat present onsite.

Figure 3:4 : Site 12 habitat example



Site 13

3.2.13. Site 13 is located on the edge of a large block of mature ancient semi-natural broadleaved woodland (Bickenhall Wood) and hedgerow next to the A358 corridor. Bickenhall Wood is also designated as an LWS. The woodland itself covers an area of approximately 32.4 hectares and the hedgerow is approximately 375m in length. The woodland comprises predominantly beech *Fagus sylvatica* and ash, with an understorey of hawthorn, field maple and hazel. The dominant ground flora comprise ivy, lords and ladies *Arum maculatum*, pendulous sedge *Carex pendula*, blue bell *Hyacinthoides non-scripta* and sweet woodruff *Galium odoratum*. The hedgerow is dominated by hawthorn and field maple. The woodland and hedgerow have abundant food sources to support dormice and are also well connected to further dormouse habitat in the wider landscape.

3.2.14. Figure 3:5 demonstrates the type of habitat present on site.

Figure 3:5 : Site 13 habitat example



Site 14

3.2.15. This site is located adjacent to the A358 and is a small block of ancient semi-natural broadleaved woodland (Saltfield Copse) and LWS covering an area of approximately 1.56 hectares. The woodland copse comprised mainly hazel, hawthorn, elder, field maple, and blackthorn interspersed with Douglas fir *Pseudotsuga menziesii*.

3.2.16. Figure 3:6 demonstrates the type of habitat present on site.

Figure 3:6 : Site 14 habitat example



Site 15

3.2.17. Site 15 comprises 621 metres of riparian habitat, is directly connected to the A358 corridor and partially within the scheme footprint. This site is designated as the River Rag LWS. The main species along this section of habitat are willow sp, oak, hazel and hawthorn.

3.2.18. Figure 3:7 demonstrates the type of habitat present on site.

Figure 3:7 : Site 15 habitat example



Site 16

3.2.19. Site 16 is located within a native hedgerow within the soft estate of the A358 and adjacent to agricultural fields and is approximately 620m in length. The species present comprised hawthorn, field maple and goat willow *Salix caprea*. The hedgerow appears to be well managed and has good connections to other suitable dormouse habitat and has good food sources.

3.2.20. Figure 3:8 demonstrates the type of habitat present on site.

Figure 3:8 : Site 16 habitat example



Site 17

3.2.21. Site 17 is made up of 623m of mature native hedgerow and 343m of riparian habitat consisting of mature willows and hawthorn; the hedgerow habitat comprised hawthorn, blackthorn interspersed with field maple. This site is well connected to the wider landscape and further areas of suitable habitat for dormice by a network of hedgerows, a disused railway line and large blocks of woodland. The species composition of the hedgerow provides good food sources for dormice.

3.2.22. Figure 3:9 demonstrates the type of habitat present on site.

Figure 3:9 : Site 17 habitat example



Site 18

3.2.23. Site 18 consists of approximately 0.53 hectare of highways planting located within the soft estate of the A358 and is bordered by arable fields on the other side. Site 18 is somewhat surrounded by a network of country lanes, however, it is not thought this will constitute a barrier to dispersal as there is arboreal connectivity to the wider landscape, including large blocks of mature broadleaved woodland (Every's Copse and Ashill Wood). Species comprise frequent hawthorn, blackthorn, hazel and field maple with occasional cherry *Prunus avium* and English elm.

Figure 3:10 demonstrates the type of habitat present on site.

Figure 3:10 : Site 18 habitat example



Site 19

3.2.24. Site 19 is a small woodland located between a country lane and the A358 and is approximately 1.45 hectares, within the scheme footprint. The western side of the woodland is lacking in understorey with sparse hawthorn, blackthorn and dogwood. The scrub becomes more dense towards the northern end of the wood. The western edge has a higher species diversity, including oak, hazel, field maple, sycamore, blackthorn and beech. The eastern side, the bank sloping towards the road, is dominated by ash with bramble covering the ground.

Figure 3:11 demonstrates the type of habitat present on site.

Figure 3:11 : Site 19 habitat example



Site 20

3.2.25. Site 20 (Ashill Wood) is a large block of mature ancient semi-natural broadleaved woodland covering an area of approximately 12.7 hectares and is located 30m from a proposed widening works of an existing country lane with species including oak, ash, sycamore and larch *Larix decidua*, with an understorey of hazel, hawthorn and grey willow *Salix cinerea*. Ground flora includes bluebell, male fern *Dryopteris filix-mas*, honeysuckle *Lonicera periclymenum*, pendulous sedge and ivy. Site 20 is connected through a network of hedgerows, woodland blocks and a disused railway to site 17. There is good connectivity to surrounding landscape and availability of food sources.

3.2.26. Figure 3:12 demonstrates the type of habitat present on site

Figure 3:12 : Site 20 habitat example



Site 21

3.2.27. Site 21 (Every's Copse) is a small block of mature ancient semi-natural broadleaved woodland covering an area of approximately 5.95 hectares and is located adjacent to proposed widening works of an existing country lane with species including ash, sweet chestnut *Castanea sativa*, Leyland cypress and hazel. Ground flora includes ivy, lords and ladies, enchanter's nightshade, pendulous sedge, herb Robert *Geranium robertianum*. and bluebell. This site is connected to site 20 and site 17 and is partially connected to site 18.

3.2.28. Figure 3:13 demonstrates the type of habitat present on site.

Figure 3:13 : Site 21 habitat example



Site 22

3.2.29. Site 22 is a block of woodland connected directly to the A358 by a riparian corridor habitat and covers an area of 6 hectares. There is good availability of food sources and the site is well connected by hedgerows to further areas of dormouse habitat. The woodland canopy consists mainly of ash, English oak and turkey oak *Quercus cerris* with an understorey of coppice hazel, hawthorn, blackthorn, field maple, English elm and guelder rose.

3.2.30. Figure 3:14 demonstrates the type of habitat present on site

Figure 3:14 : Site 22 habitat example



Site 23

3.2.31. Site 23 comprises approximately 0.69 hectares of typical highways planting. It is located within the soft estate of the A358 and is directly within the scheme footprint. The composition of the planting is predominantly coppiced hazel and hawthorn, with occasional oak and ash with a sparse understorey. This site is well connected to the A358 corridor and the wider landscape all offering suitable dormouse habitat.

3.2.32. Figure 3:15 demonstrates the type of habitat present on site.

Figure 3:15 : Site 23 habitat example



3.3. Nest tube surveys

3.3.1. Following the completion of the dormouse surveys in 2017, hazel dormice have been confirmed at sites 12, 13, 14, 15, 16, 17, 18, 19 and 23. Evidence of hazel dormice

has been confirmed at site 6 in the form of multiple nests. Sites 7, 9a, 10, 11, 20, 21 and 22 were not surveyed in 2017 due to access restrictions. Access for sites 9a, 20, 21 and 22 has since been granted but as these sites are connected to dormouse sites with positive results, dormouse presence has been assumed. No access has been given to survey for dormice at sites 7, 10 and 11, however these sites are also connected to sites with positive results and have good habitat suitability for dormice, it is therefore assumed dormice will be present at these sites.

3.3.2. Survey summary information for each site is provided in Appendix C, including photos of dormice.

3.4. Population estimate

3.4.1. Nest tube surveys are intended to detect the presence of dormice and do not permit an estimation of population density. However the *Dormouse Conservation Handbook*⁵ suggests that in optimal habitat (diverse deciduous woodland with abundant scrub and vigorous understorey) the mean spring density of dormouse will be four to ten adults per hectare and in a hedgerow habitat the mean spring density is 1.3 adults per hectare, with autumn densities several times higher. The estimated population for this scheme has been completed for each site.

Site 6

3.4.2. The suitable habitat at site 6 comprises hedgerows and has an area of approximately 0.64 hectares. Using the mean spring density of 1.3 adults per hectare, the estimated population at this site is less than one dormouse.

Site 9

3.4.3. Site 9 is considered to be optimal habitat for dormice and covers an area of 15.6 hectares. Using the mean spring density of four adults per hectare, the estimated dormouse population here is 62.4 dormice.

Site 12

3.4.4. The suitable habitat at site 12 is highways planting and is diverse in structure. Site 12 covers an area of approximately 0.64 hectares. Using the mean spring density of four adults per hectare, the estimated dormouse population here is 2.56 dormice.

Site 13

3.4.5. The habitat at site 13 is considered to be optimal for dormice. Bickenhall Wood covers an area of 32.5 hectares. Using the mean spring density of four adults per hectare, the estimated dormouse population here is 142 dormice.

Site 14

3.4.6. Site 14 is ancient semi natural woodland and covers an area of 1.56 hectares and is considered optimal habitat. Using the mean spring density of four adults per hectare, the estimated dormouse population here is 6.24 dormice.

Site 15

3.4.7. This site is an oak dominated riparian corridor with hazel and hawthorn and covers an area of approximately 1.06 hectares. Using the mean spring density of two adults per hectare (as per the *Dormouse Conservation Handbook* for unmanaged oak dominated woodland⁵), the estimated population here is 2.12 dormice.

Site 16

3.4.8. The suitable habitat at site 6 comprises predominately of hedgerows and has an area of approximately 0.32 hectares. Using the mean spring density of 1.3 adults per hectare, the estimated population here is less than 0.5 dormice.

Site 17

3.4.9. The suitable habitat at site 17 comprised predominantly hedgerow and has an area of approximately 0.31 hectares. Using the mean spring density of 1.3 adults per hectare, the estimated population here is 0.4 dormice.

Site 18

3.4.10. The suitable habitat at site 18 is highways planting but is diverse in structure. Due to this the mean spring density of four adults per hectare will be used to estimate the population density. Site 18 covers an area of approximately 0.53 hectares, therefore the estimated dormouse population here is 2.12 dormice.

Site 19

3.4.11. The suitable habitat at site 19 is a small block of woodland but is diverse in structure. Due to this the mean spring density of four adults per hectare will be used to estimate the population density. Site 19 covers an area of approximately 1.45 hectares, therefore the estimated dormouse population here is 5.8 dormice.

Site 23

3.4.12. The suitable habitat at site 23 is highways planting and is limited in structure. As oak is present and hazel is dominant the mean spring density to estimate the population density is two adults per hectare. Site 23 covers an area of approximately 0.69 hectares, therefore the estimated dormouse population here is 1.38 dormice.

3.5. Site status

3.5.1. Dormice are locally common in Somerset, despite a national decline. The nest tube surveys concluded the presence of dormice within 250m of the scheme. Due to the large amount of suitable dormouse habitat within the scheme footprint and as Somerset is a stronghold for the species, the project site is considered to be of regional conservation value for dormice.

4. Conclusion

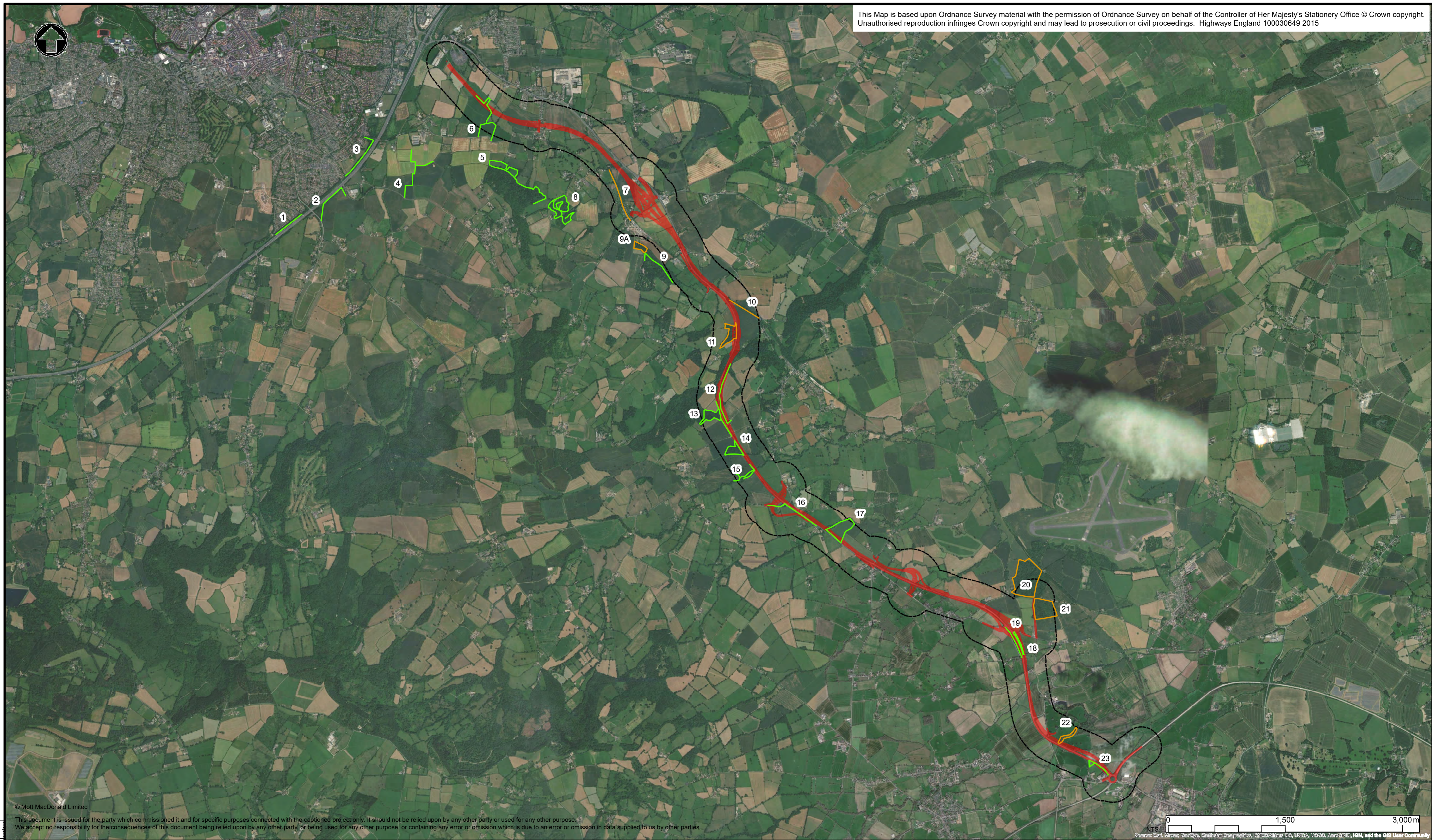
4.1.1. The nest tube surveys concluded that hazel dormice are present within 250m of the scheme. Due to the extent of high quality habitat across the scheme, the availability of connectivity to surveyed sites and the mobile nature of the hazel dormouse, it is likely dormice are present in all suitable habitat across the scheme.

4.1.2. Sites 7, 10 and 11 have not been surveyed as no access to date has been agreed. These sites are connected to site 8 (now outside the 250m buffer), 12 and 13 respectively where the presence of dormice has been confirmed. Due to the good habitat suitability and connectivity, it is likely dormice are present at these sites.

4.1.3. Sites 20, 21 and 22 have not been surveyed although access has been granted since 2017. These sites are connected to survey sites 17 and 18 where the presence of dormice have been confirmed. Due to their high quality habitat and connectivity to positive dormouse sites, presence of hazel dormice is assumed. A meeting with Natural England held on the in April 2019 confirmed that this was a satisfactory assumption to make.

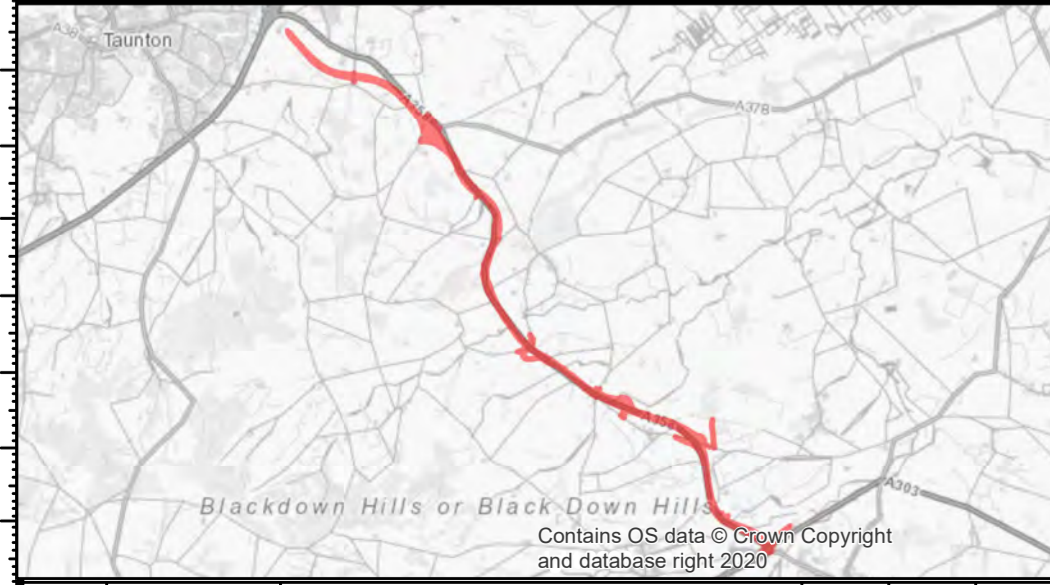
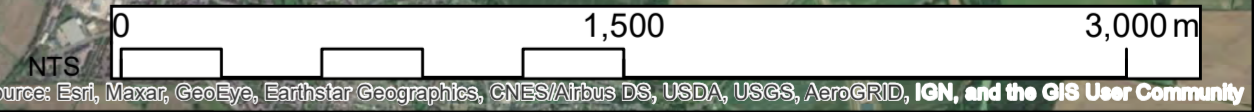
Appendices

Appendix A – Location of dormouse survey sites



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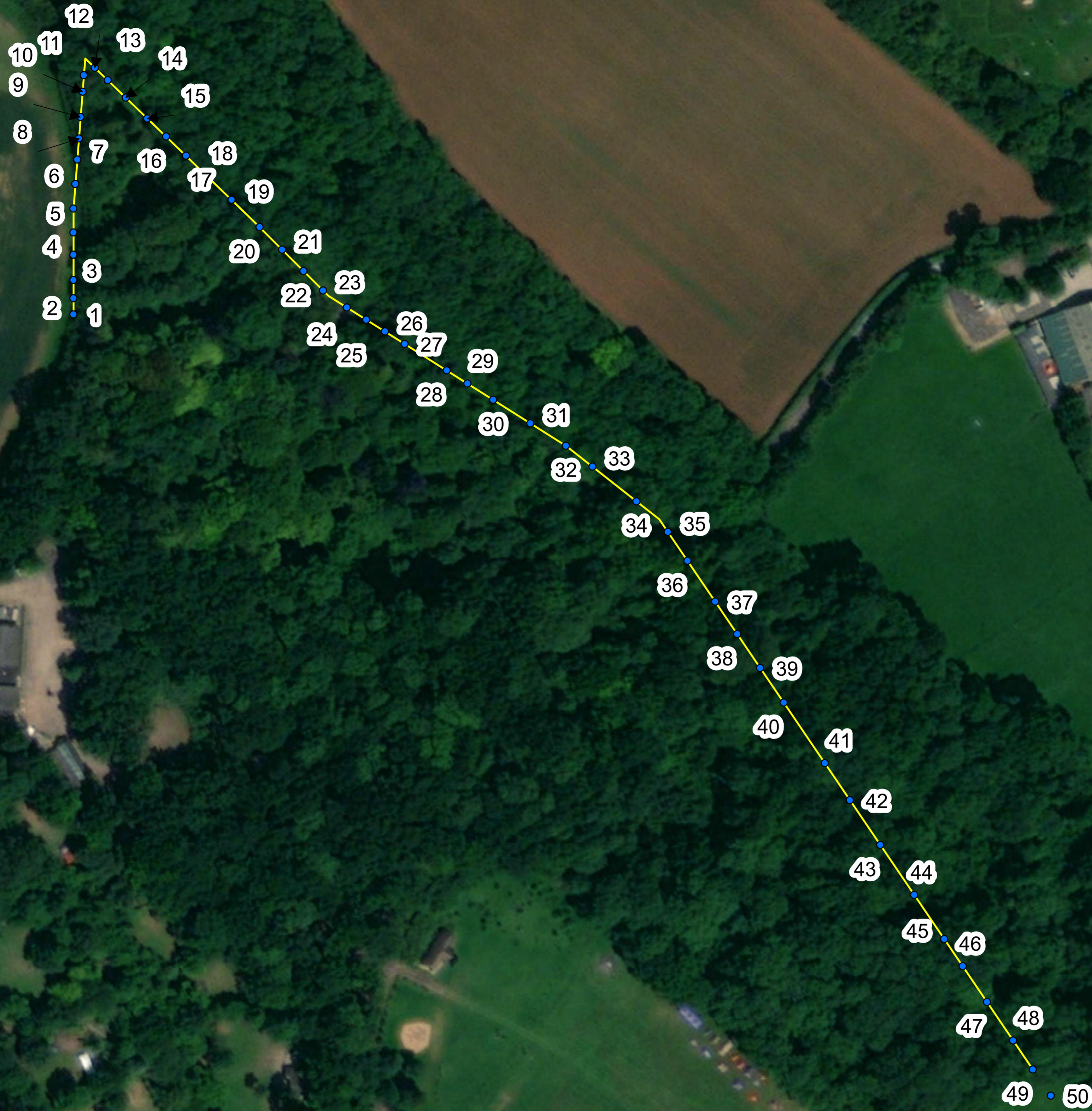


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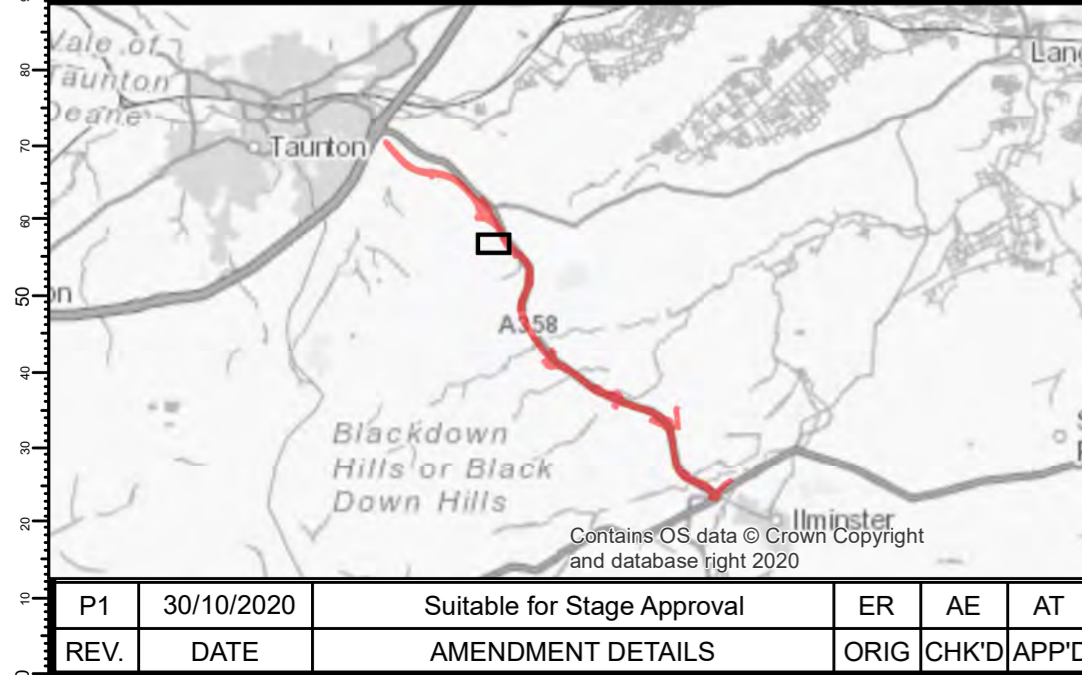
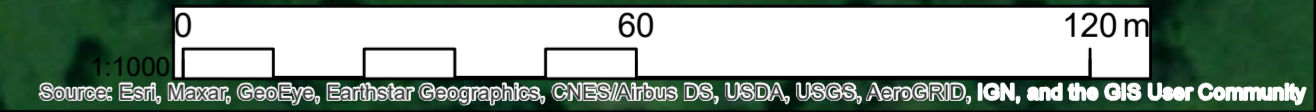
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Appendix B – Dormouse nest tube locations



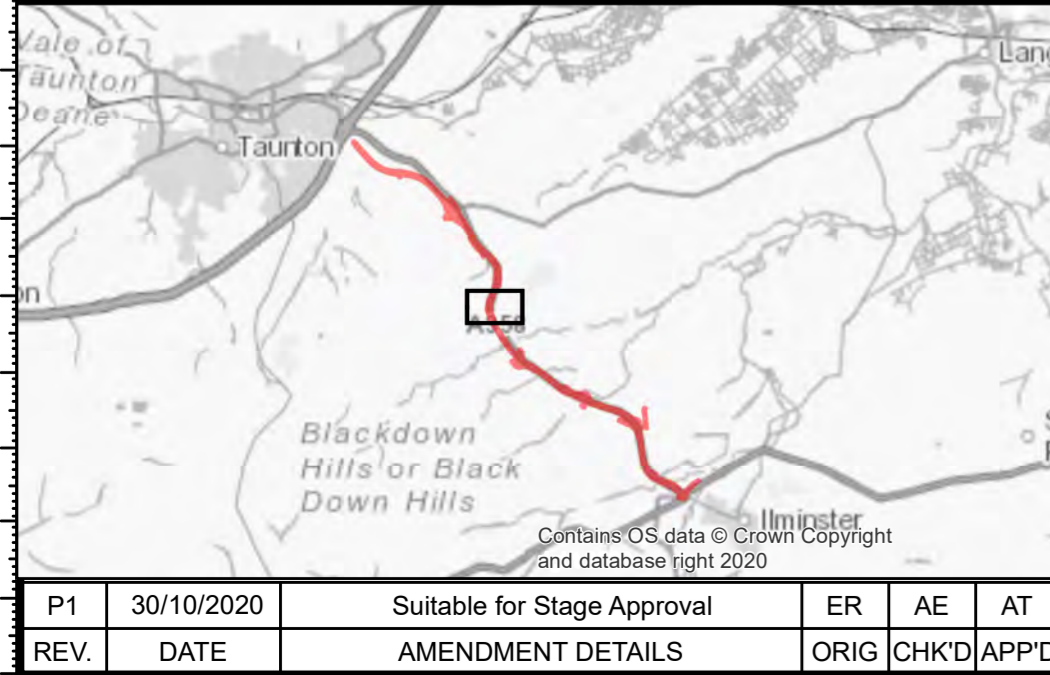
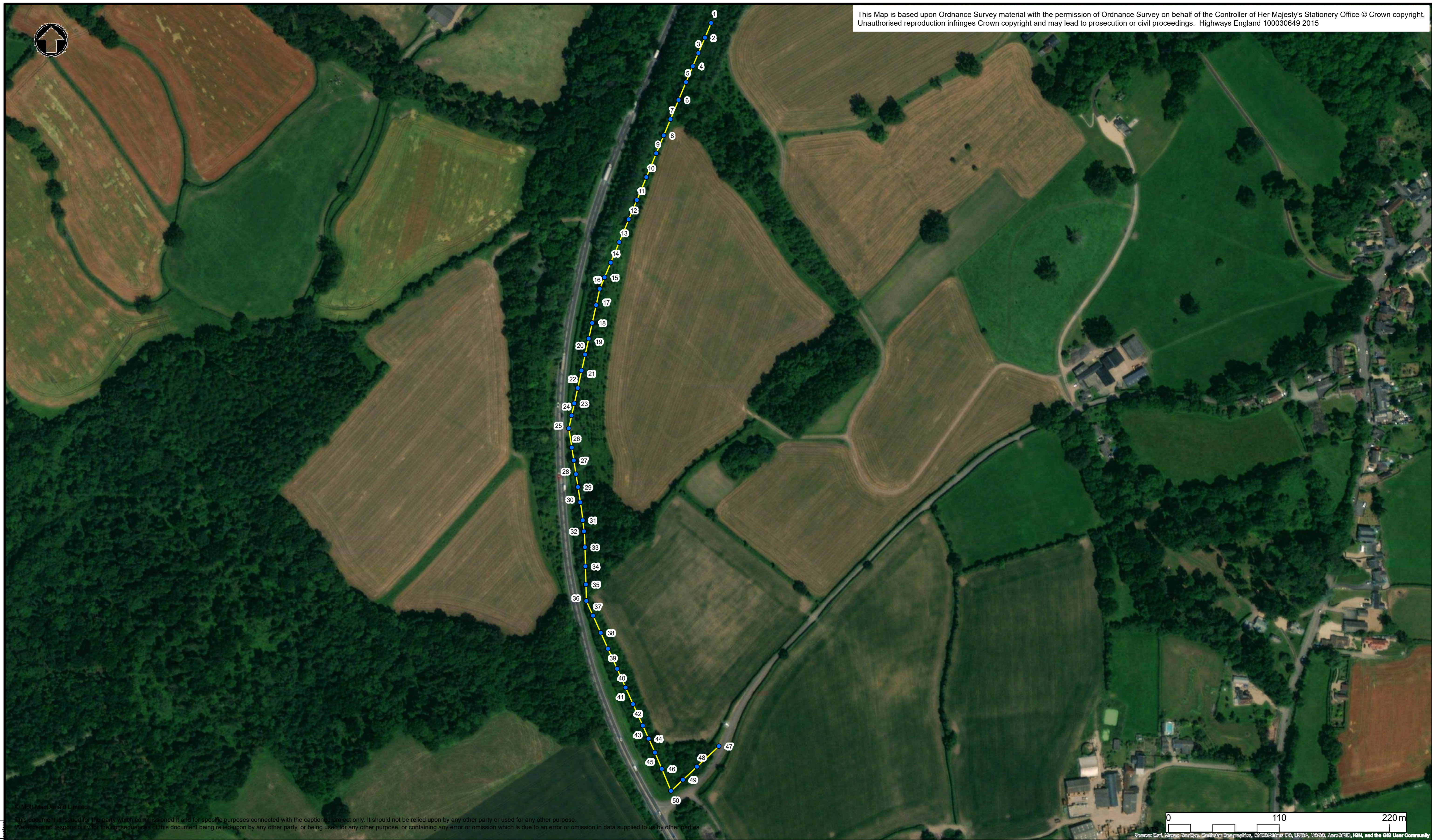
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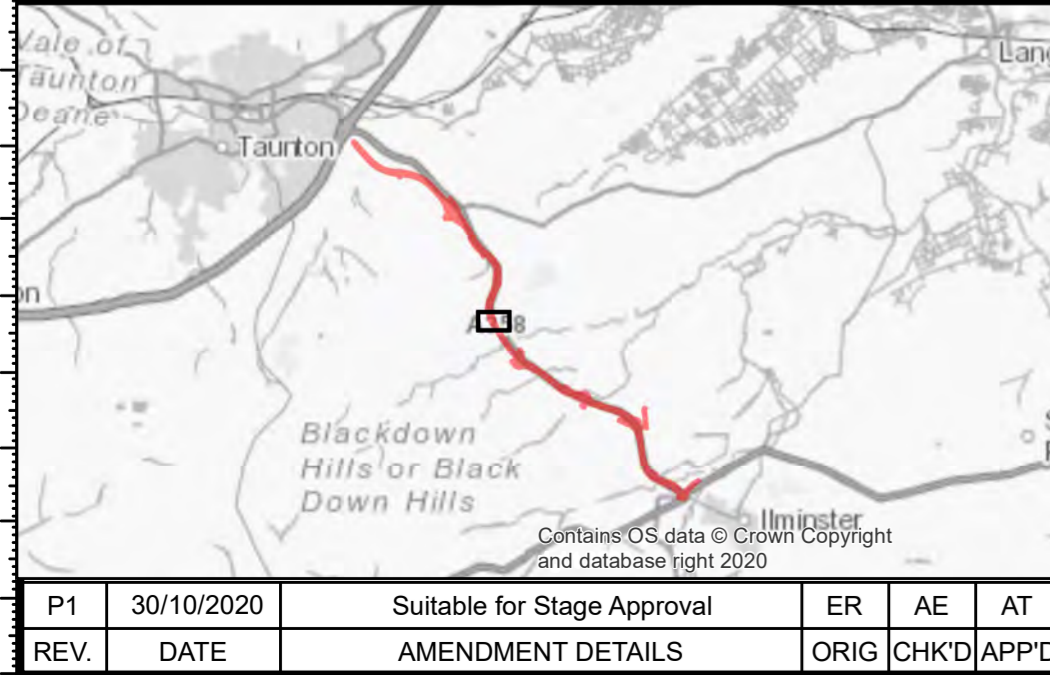
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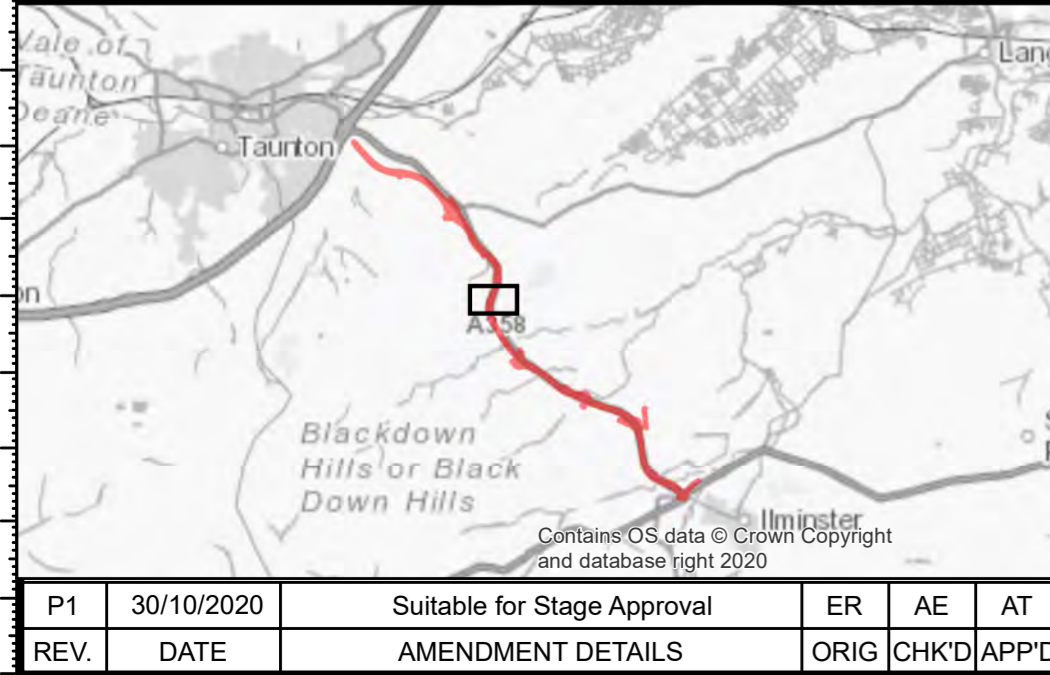
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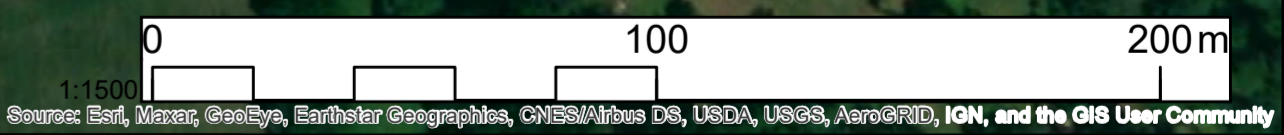
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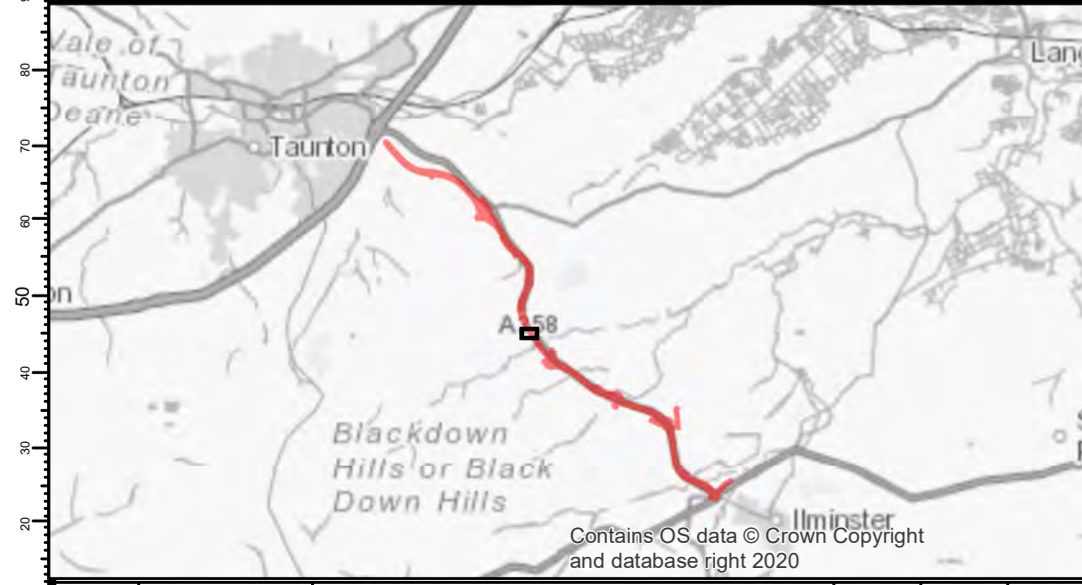
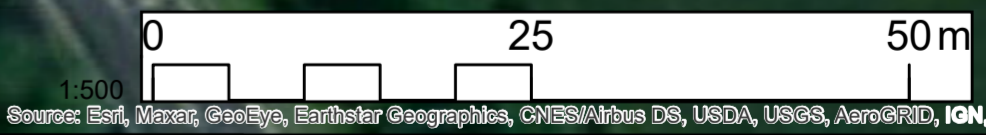
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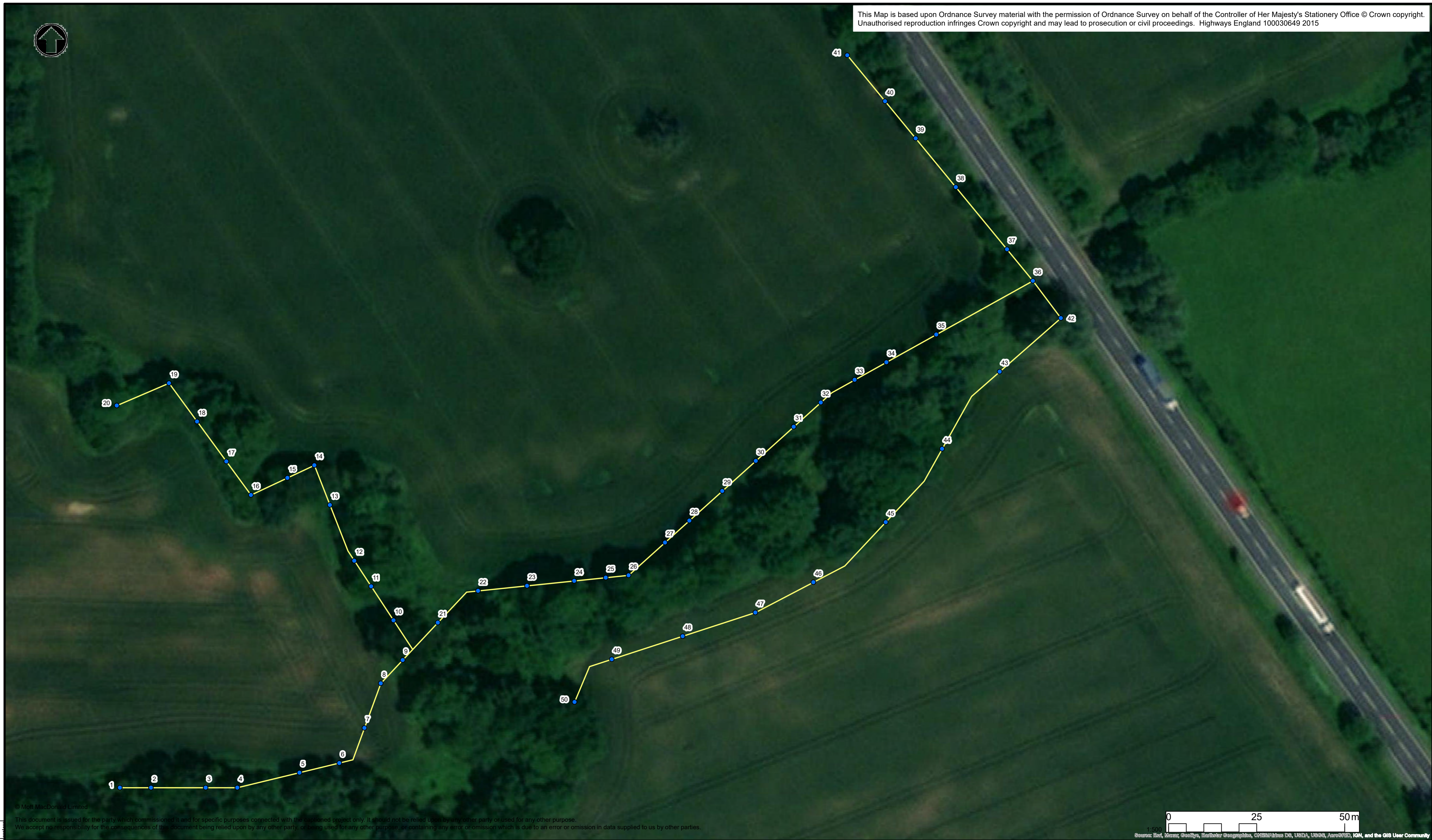


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Dormouse survey site	— 15

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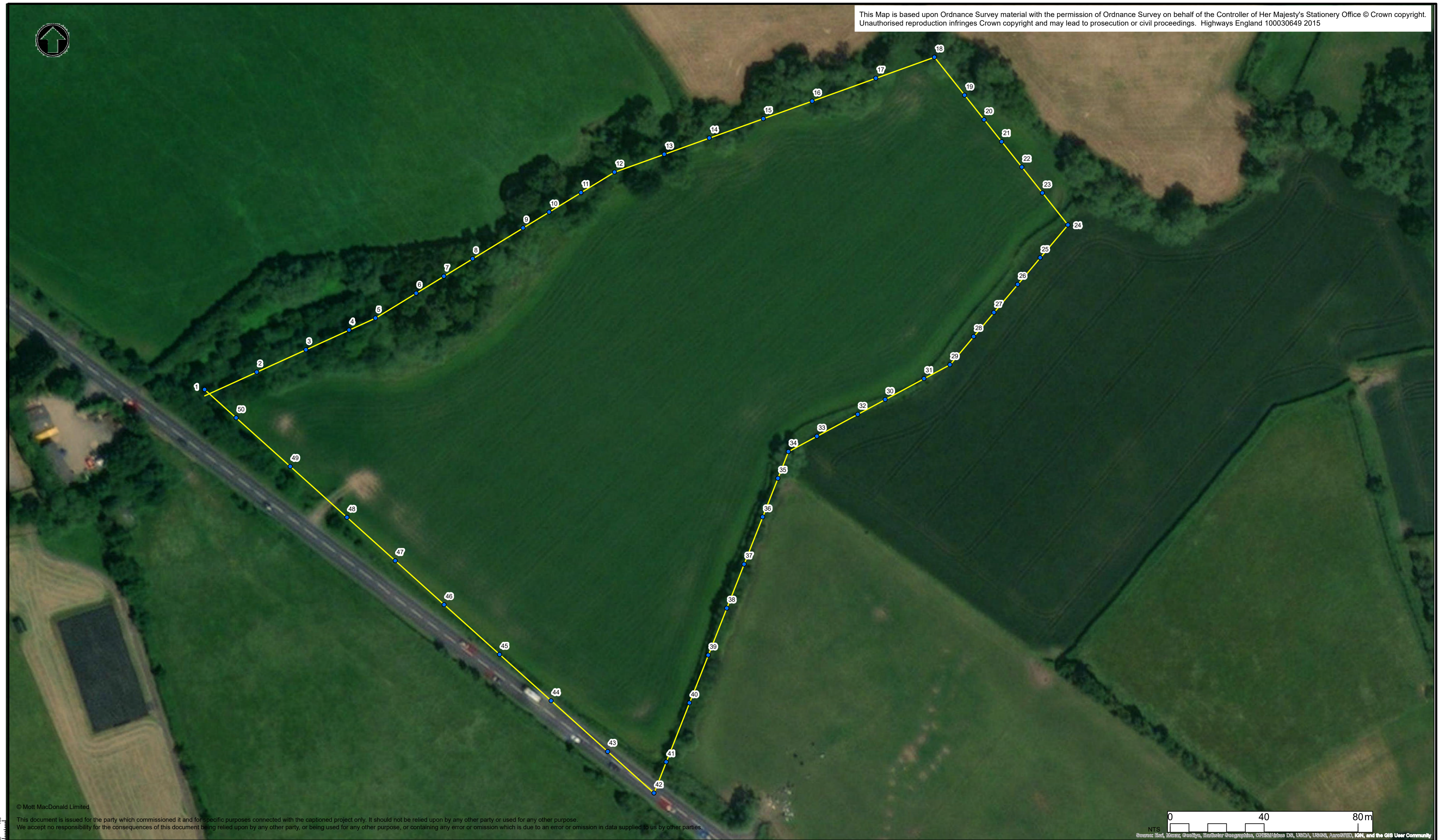
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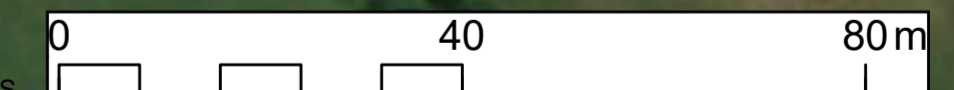
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				0055	P1

REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
P1	30/10/2020	Suitable for Stage Approval	ER	AE	AT



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NTS
Sources: Esri, DeLorme, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

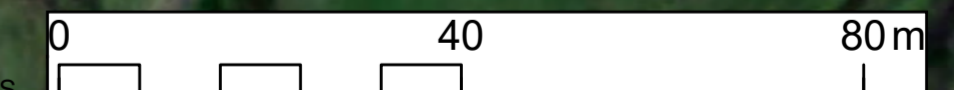
<p>Notes</p> <p>Dormouse tube locations, Mott MacDonald (2017)</p> <p>Coordinate System: British National Grid Projection: Transverse Mercator Datum: OSGB 1936 False Easting: 400,000.0000 False Northing: -100,000.0000 Central Meridian: -2.0000 Scale Factor: 0.9996 Latitude Of Origin: 49.0000 Units: Meter</p>	<p>Key to symbols</p> <p>● DORMOUSE TUBE LOCATIONS</p> <p>Dormouse survey site</p> <p>— 17</p>												
<table border="1"> <tr> <td>P1</td> <td>30/10/2020</td> <td>Suitable for Stage Approval</td> <td>ER</td> <td>AE</td> <td>AT</td> </tr> <tr> <td>REV.</td> <td>DATE</td> <td>AMENDMENT DETAILS</td> <td>ORIG</td> <td>CHK'D</td> <td>APP'D</td> </tr> </table>	P1	30/10/2020	Suitable for Stage Approval	ER	AE	AT	REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D	<p>References drawings</p>
P1	30/10/2020	Suitable for Stage Approval	ER	AE	AT								
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D								

<p>Drawing Status</p> <p>Suitable for Stage Approval</p>		<p>Suitability</p> <p>S4</p>	<p>Project Title</p> <p>A358 Taunton to Southfields</p>	
<p>Mott MacDonald Sweco</p> <p>Stoneham Place Stoneham Lane Southampton SO50 9NW</p> <p>Tel : +44 (0)23 8062 8800 Fax : +44 (0)23 8062 8801 www.mottmac.com</p>		<p>Drawing Title</p> <p>Dormouse Tube Location Site 17</p>		
<p>Scale</p> <p>NTS</p>	<p>Designed</p> <p>AE</p>	<p>Drawn</p> <p>ER</p>	<p>Checked</p> <p>AE</p>	<p>Approved</p> <p>AT</p>
<p>Original Size</p> <p>A1</p>	<p>Date</p> <p>30/10/2020</p>	<p>Date</p> <p>30/10/2020</p>	<p>Date</p> <p>30/10/2020</p>	<p>Date</p> <p>30/10/2020</p>
<p>Drawing Number</p> <p>HE PIN</p> <p>000</p>		<p>Originator</p> <p>MMSJV</p>	<p>Volume</p> <p>- EBD -</p>	<p>Project Ref. No.</p> <p>370774</p>
<p>Location</p>		<p>Type</p> <p>- DR - LB -</p>	<p>Role</p> <p>0056</p>	<p>Revision</p> <p>P1</p>



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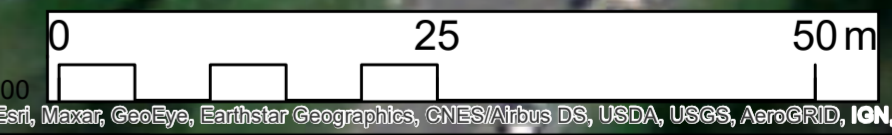
Notes		Key to symbols		References drawings	
Dormouse tube locations, Mott MacDonald (2017)		● Dormouse tube locations			
Coordinate System: British National Grid Projection: Transverse Mercator Datum: OSGB 1936 False Easting: 400,000.0000 False Northing: -100,000.0000 Central Meridian: -2.0000 Scale Factor: 0.9996 Latitude Of Origin: 49.0000 Units: Meter		Dormouse survey site		18	

Drawing Status		Suitable for Stage Approval		S4		Project Title		A358 Taunton to Southfields			
Client		Mott MacDonald Sweco		Stoneham Place Stoneham Lane Southampton SO50 9NW Tel: +44 (0)23 8062 8800 Fax: +44 (0)23 8062 8801 www.mottmac.com		Drawing Title		Dormouse Tube Location Site 18			
Scale		NTS		Designed		Drawn		Checked		Approved	
Original Size		A1		Date		Date		Date		Date	
Drawing Number		HE PIN		Originator		Volume		Project Ref. No.		Revision	
000		HE551508 - MMSJV		- EBD -		- DR - LB - 0057		370774		P1	
Location		Type		Role		Number					

REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
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Notes
 Dormouse tube locations, Mott MacDonald (2017)
 Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 False Easting: 400,000.0000
 False Northing: -100,000.0000
 Central Meridian: -2.0000
 Scale Factor: 0.9996
 Latitude Of Origin: 49.0000
 Units: Meter




Key to symbols	● Dormouse tube locations
Dormouse survey site	— 23




Drawing Status		Suitable for Stage Approval		S4		Project Title		A358 Taunton to Southfields	
Mott MacDonald Sweco		Stoneham Place Stoneham Lane Southampton SO50 9NW		Tel : +44 (0)23 8062 8800 Fax : +44 (0)23 8062 8801 www.mottmac.com		Drawing Title		Dormouse Tube Location Site 23	
Scale	1:500	Designed	AE	Drawn	ER	Checked	AE	Approved	AT
Original Size	A1	Date	30/10/2020	Date	30/10/2020	Date	30/10/2020	Date	30/10/2020
Drawing Number	HE PIN	Originator	Volume	Project Ref. No.		Revision			
000	HE551508 - MMSJV	- DR - LB -	0059	370774		P1			









Appendix C – Nest tube survey results summary





Site	Number of tubes	Date	Start and finish time	Weather	Summary	Points	Photographs
1 – no longer within 250m of the Pink Modified option	50	17/04/2017	10:30 – 11:30	Optimal – sunny, no cloud and gentle breeze	No dormice	1	
		23/05/2017	09:40 – 10:38	Overcast and warm	One adult dormouse present in tubes 7 and 11, 2 adult dormice present in tube 14.	4	
		14/06/2017	11:30 – 12:30	Optimal – warm and clear	Dormouse nests identified in tubes 7 and 14. One adult and two pink dormice present in tube 19. One adult dormouse present in tube 49.	2	None taken
Overall summary of results						7 points – the presence of dormice has been confirmed so surveys ceased June 2017.	
2 – no longer within 250m of the Pink Modified option	50	02/05/2017	09:30 – 10:45	Overcast but warm	No dormice	4	
		13/06/2017	10:45 – 12:00	Clear and sunny	One adult dormouse and five pinks identified in tube 1. One dormouse identified in tube 49.	2	
Overall summary of results						6 points – the presence of dormice has been confirmed so surveys ceased in June 2017	
3 – no longer within 250m of the Pink Modified option	50	15/06/2017	08:45 – 9:00	Clear and sunny	No dormice	2	
		24/07/2017	11:15-12:00	Warm dry and sunny	One adult dormouse and one pink identified in tube 14. Loose dormouse nest identified in tube 49.	2	




Site	Number of tubes	Date	Start and finish time	Weather	Summary	Points	Photographs
						n/a	
Overall summary of results						4 points – dormouse presence confirmed, therefore surveys ceased in July 2017.	
Site 4 – no longer within 250m of the Pink Modified option	50	18/04/2017	13:00 – 14:00	Sunny and clear	Probable dormouse nest in tube 47.	1	
		23/05/2017	15:32 – 16:50	Overcast and muggy	Active wood mouse and pinks in tube 42.	4	
		14/06/2017	10:15 – 11:30	Clear, warm and dry	Tube 42 wood mouse nest and small mammal nest in tube 48.	2	
		24/07/2017	12:30 – 13:30	Hot, clear and dry	Tube 6 had the start of a nest, no green leaves and no structure. Not thought likely to be dormouse.	2	



Site	Number of tubes	Date	Start and finish time	Weather	Summary	Points	Photographs
		14/08/2017	15:00 – 16:00	Warm and overcast	A dormouse nest identified in tube 7, tightly woven nest with some green leaves.	5	
					Loose nest identified in tube 8, green leaves and stripped bark so thought likely to be the start of a dormouse nest.	n/a	
					Tightly woven nest with green leaves was identified within tube 9, likely to be a dormouse nest due to its structure and composition.	n/a	
					Tube 12 contained some small green leaves and nibbled hazard tape. No structure.		No Photo




Site	Number of tubes	Date	Start and finish time	Weather	Summary	Points	Photographs
					Loose dead leaves in tube 17, no structure to the nest.	n/a	
					Tube 38 had some green leaves and some strips of grass, could be a dormouse starter nest but lacked structure.	n/a	
					Two adult wood mice identified in tube 46.	n/a	
					Tube 48 has some dead leaves present and no structure to the nest.	n/a	



Site	Number of tubes	Date	Start and finish time	Weather	Summary	Points	Photographs
					Loose brown leaves were present in tube 50 due to the lack of structure not thought to be dormice.		
		27/09/2017	11:45 – 13:00	Warm and overcast	Tube 2 contained loose dead leaves. No structure. Tubes 6 and 8 contained a possible dormouse starter nest, stripped bark was present but no leaves. Tube 9 contained an empty dormouse nest. The nest was still present in tube 48 (same as the August survey).	7	No photos
		17/10/2017	14:35 – 15:30	Overcast and dry	Wood mouse nest was identified in tube 34.	2	
		06/11/2017	14:00 – 16:30	Mild and clear	Newly identified to previous survey: Tube 13 contained a dormouse nest, the nest was made of stripped bark and was tightly woven.	2	
					Tube 17 contained a tightly woven nest with green / brown leaves and stripped bark. Thought to be a dormouse nest.	n/a	
Overall results summary						25 points – multiple dormouse nests identified, therefore presence confirmed.	
5 – no longer within 250m of the Pink Modified option	100	19/04/2017	10:00 – 11:30	Sunny and clear	No dormice	1	
		22/05/2017	13:30 – 14:30	Sunny and hot	No dormice	4	
		14/06/2017	10:00 – 12:15	Sunny hot and clear	No dormice	2	

Site	Number of tubes	Date	Start and finish time	Weather	Summary	Points	Photographs
		27/07/2017	08:30 – 10:30	Clear, hot and sunny	No dormice	4	
		14/08/2017	08:30 -11:30	Overcast but warm	Nest identified in tube 17, brown leaves with no structure, and droppings present thought to be a wood mouse nest.	5	
					Tube 46 contained a nest, due to its structure and composition of green leaves it is dormouse.	n/a	
		27/09/2017	09:45 – 11:30	Warm and overcast	Adult dormouse present in tube 19. Tube 78 had dead loose leaves present, not likely to be a dormouse nest. One adult wood mouse identified in tube 90.	7	
					Tube 77 contained a nest, due to its tightly woven structure and composition, it is likely to be a dormouse nest.	n/a	




Site	Number of tubes	Date	Start and finish time	Weather	Summary	Points	Photographs
					A likely dormouse nest was identified in tube 92.	n/a	
Overall summary of results						23 points and the presence of dormice confirmed	
Site 6	50	18/04/2017	15:00 – 16:00	Sunny and clear	No dormice	1	
		26/05/2017	07:45 – 9:00	Sunny and warm	Tube 19 had some woven grass which had some structure, potential dormouse nest.	4	
		15/06/2017	09:00 – 10:00	Sunny and warm	Tube 106 had an empty nest by the composition and structure it is likely to be a dormouse nest.	2	




Site	Number of tubes	Date	Start and finish time	Weather	Summary	Points	Photographs
		27/07/2017	15:00 – 16:00	Sunny and warm, temp 22c	Tube 44 with a woven nest likely to be dormice.	2	
		14/08/2017	14:00 – 15:00	Warm and overcast	No further evidence.	5	
		25/09/2017	10:15 – 11:15	Warm and overcast	Tubes 14, 19 and 84 contained loose leaves with no structure and therefore unlikely to be dormouse. Tube 89 had a loose unstructured grass nest, not likely to be dormouse. One adult wood mouse identified in tubes 24, and 45.	7	
		17/10/2017	13:35 – 14:30	Temp 15c overcast and dry	Adult wood mice identified in tubes 82, 40, 14 and 24.	2	
		8/11/2017	08:45 – 11:00	Sunny and clear	Tube 84 contained a typical dormouse nest, a woven nest with structure and green and brown leaves.	2	
Overall summary of results						25 points - dormice confirmed by the presence of nests	
Site 7	N/A	N/A	N/A	N/A	No dormouse surveys undertake here as no access for these surveys has been undertaken. Site 7 is connected to site 8 by a network of hedgerows. Site 8 confirmed the presence of dormice, dormice are therefore assumed present at this site.	n/a	
	100	20/04/2017	10:30 – 12:30	Cloudy and cool	No dormice	1	




Site	Number of tubes	Date	Start and finish time	Weather	Summary	Points	Photographs
Site 8 – no longer within 250m of the Pink Modified option		26/05/2017	06:20 – 7:30	Temp 18c, dry	One adult wood mouse identified in tube 52. One adult dormouse with pinks identified in tube 59	4	
Overall results summary						5 - Dormouse survey ceased in May as the presence of dormice has been confirmed.	
Site 9	50	19/04/2017	08:30 – 10:00	Cloudy and cool	No dormice	1	
		24/05/2017	08:30 – 17:00	Temp 23c, sunny	No dormice	4	
		14/06/2017	12:30 – 13:30	Temp 22c, sunny	No dormice	2	
		25/07/2017	11:50 – 12:00	Temp 22c, sunny	No dormice	2	
		15/08/2017	11:50 – 13:00	Warm and overcast	No dormice	5	
		26/09/2017	09:45 – 11:00	Warm and cloudy	Tube 18 contained a nest made of green leaves, the nest has structure and likely to be dormouse.	7	
					Adult dormouse identified within tube 32. Nest shown in photo.		
Overall results summary						21 points – presence of dormice identified in September.	
Site 10					No dormouse surveys undertake here as no access for these surveys has been undertaken. Site 10 is connected to site 12 by a	n/a	


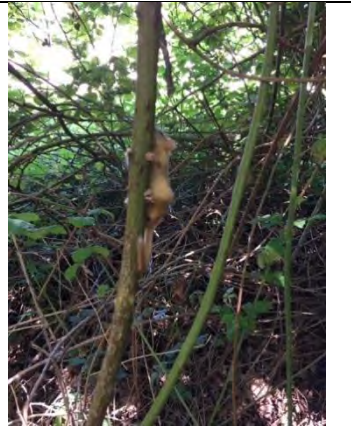
Site	Number of tubes	Date	Start and finish time	Weather	Summary	Points	Photographs
					network of hedgerows. Site 12 confirmed the presence of dormice. It is assumed dormice are present at this site.		
Site 11					No dormouse surveys undertaken here as no access has been granted. Site 11 is connected to site 13 by the A358 corridor plating and arboreal connectivity. Site 13 confirmed the presence of dormice. It is assumed dormice are present at this site.	n/a	
Site 12	50	24/04/2017	14:45 – 16:00	Cloudy and warm	Dormouse seen next to tube 3 on a field maple. Dormouse nest within the tube.	1	
		25/05/2017	06:20 – 7:00	Dry and sunny	One adult dormouse identified within tube 3 in torpor. Tightly woven dormouse nest identified in tube 8. Adult dormice identified in tubes 14, 16 and 31. Adult dormouse seen jumping from tube 25, dormouse nest within the tube. Probable dormouse started nest within tube 25.	4	
		14/06/2017	13:00 – 14:00	Sunny and warm, temp 20c	Dormice identified in tubes 3, 8, 14, 16 and 25.	2	


Site	Number of tubes	Date	Start and finish time	Weather	Summary	Points	Photographs
Overall results summary						7 points – dormouse survey ceased as confirmed the presence of dormice in May 2017.	
Site 13	100	24/04/2017	16:00 – 17:10	Overcast but warm	No dormice	1	
		25/05/2017	07:00 – 8:00	Sunny, temp 15c	Possible dormouse starter nests in tube 16 loose green leaves.	4	
					Possible dormouse starter nest in tube 17 loose weaved grass.		
		15/06/2017	11:00 – 12:00	Sunny, temp 18c	Nothing new to note.	2	
		26/07/2017	10:30 – 11:30	Temp 18c, overcast and muggy	Tube 17 confirmed as a dormouse nest, tightly woven nest with green leaves.	2	
		15/08/2017	9:00 – 9:45	Warm and muggy	Nothing new to note.	5	
		26/09/2017	11:15 – 12:15	Overcast and warm	Nothing new to note.	7	

Site	Number of tubes	Date	Start and finish time	Weather	Summary	Points	Photographs
		17/10/2017	12:45 – 13:30	Temp 15, overcast and dry	One adult dormouse identified in tube 6.	2	
Overall results summary						22 points – dormouse nest identified in July and 1 dormouse identified in October.	
Site 14	50	24/05/2017	13:00 – 14:10	Temp 23c and sunny	No dormice	4	
		13/06/2017	10:30 – 11:15	Temp 18 and sunny	No dormice	2	
		26/07/2017	15:15 – 16:30	Temp 22c and sunny	No dormice	2	
		15/08/2017	9:50 – 10:30	Overcast and warm	No dormice	5	
		29/09/2017	13:30 – 14:20	Overcast and warm	One adult dormouse in tube 64 and one in tube 82. Tube 24, loose green leaves.	7	No photos
Overall results summary						20 points – dormice confirmed present in September and surveys ceased.	
Site 15	50	24/05/2017	14:10 – 15:10	Temp 23c and sunny	Tubes 14 and 17 contained typical dormouse nests.	4	
		13/06/2017	11:30 – 12:35	Temp 18c and sunny	Tube 19 contained a dormouse nest with six pinks.	2	
					Tube 17 contained a nest with the structure and composition of a dormouse nest, likely to be dormouse.	n/a	

Site	Number of tubes	Date	Start and finish time	Weather	Summary	Points	Photographs
Overall results summary						6 points – survey ceased as dormice confirmed on the site by nests and pinks.	
Site 16	50	24/04/2017	14:00 – 15:30	Cloudy, no rain	No dormice	1	
		25/05/2017	8:00 – 9:00	Hot and sunny	Dormouse present in tube 1.	4	
		12/06/2017	15:00 – 16:00	Warm with sunny spells	Dormouse present in tube 1. One adult female and pinks identified in tube 33.	2	
Overall results summary						7 points – survey ceased in June as dormice confirmed to be present.	
Site 17	50	27/04/2017	11:15 – 12:15	Sunny with some cloud cover	One adult dormouse identified in tube 43.	1	
		22/05/2017	12:00 – 13:00	Warm and sunny	Potential starter nest identified within tube 4, green leaves present and the beginnings of a woven nest.	4	

Site	Number of tubes	Date	Start and finish time	Weather	Summary	Points	Photographs
		14/06/2017	14:00 – 16:00	Warm and sunny	Tube 4 contained a structured nest typical of a dormouse.	2	
					Tube 11 contained a tightly woven nest and dormouse jumped out of tube on approach.	n/a	
					Dormouse nest identified within tube 45.	n/a	
Overall result summary						7 points – dormice and dormice nests confirmed, surveys ceased in June.	
Site 18	50	26/04/2017	09:30 – 10:30	Cloudy with sunny intervals	No dormice	1	
		22/05/2017	14:40 – 15:12	Temp 22c and dry	No dormice	4	

Site	Number of tubes	Date	Start and finish time	Weather	Summary	Points	Photographs
		12/06/2017	14:00 – 14:45	Temp 20c with sunny spells	Tube 2 contained three young dormice.	2	
Overall summary of results						7 points – As dormice were confirmed in June surveys ceased.	
Site 19	50	25/04/2017	10:00 – 11:30	Cloudy with sunny spells	No dormice	1	
		22/05/2017	14:00 – 14:30	Temp 22c and sunny	One dormouse identified in tube 3.		
		12/06/2017	12:00 – 13:00	Warm with sunny spells	Tube 3 dormouse nest. One adult dormouse in nest with pinks in tube 8.	2	No photo
Overall results summary						3 points – Dormice confirmed on site so surveys stopped in June.	
Site 20					No access to site 20 at the time of the surveys. Access has since been granted but as the site is connected to site 17 and 18 with positive dormouse results, dormice are assumed present.	n/a	
Site 21					No access to site 21 at the time of the surveys. Access has since been granted but as the site is connected to site 17 and 18 with positive dormouse results, dormice are assumed present.	n/a	
Site 22					No access to site 22 at the time of the surveys. Access has since been granted but as the site is connected to site 18 with positive dormouse results, dormice are assumed present.	n/a	

Site	Number of tubes	Date	Start and finish time	Weather	Summary	Points	Photographs
Site 23	50	26/04/2017	10:45 – 11:45	Overcast with sunny spells	No dormice	1	
		22/05/2017	13:00 – 13:45	Temp 22c and sunny	No dormice	4	
		12/06/2017	11:00 – 11:45	Temp 22c with sunny spells	No dormice	2	
		27/07/2017	11:45 – 12:30	Temp 19c and overcast	No dormice	2	
		15/08/2017	08:15 – 8:50	Temp 19c and overcast	No dormice	5	
		25/09/2017	12:00 – 12:45	Overcast	Dormice identified in tubes 15, 23, 30 – one adult per tube. Three dormice identified in tube 24	7	
Overall summary of results						21 points – surveys ceased in September due to the presence of dormice and achieving 20 points.	