

PORTISHEAD BRANCH LINE PRELIMINARY  
ENVIRONMENTAL INFORMATION REPORT  
VOLUME 4

APPENDIX 9.7

## Dormice Survey Report



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# Acronyms and Abbreviations

BRERC	Bristol Regional Environmental Records Centre
CIEEM	Chartered Institute of Ecology and Environmental Management
DCO	Development Consent Order
EPS	European Protected Species
NNR	National Nature Reserve
NSDC	North Somerset District Council
NSIP	Nationally Significant Infrastructure Project
SSSI	Site of Special Scientific Interest



# Executive Summary

CH2M was commissioned by North Somerset District Council (“NSDC”) to undertake a dormice *Muscardinus avellanarius* survey along the route of the proposed Portishead Branch Line (MetroWest Phase 1) Development Consent Order Scheme (“the DCO Scheme”), incorporating associated development along the operational railway line between Pill and Ashton Junction. The need for a dormice survey was recommended in the Ecological Appraisal (CH2M Hill, 2015), which identified the need for more detailed ecological surveys.

A desk study was carried out as part of the Ecological Appraisal Report, in which Bristol Regional Environmental Records Centre (“BRERC”) dormice records were provided. The search area included the site and the surrounding area to 1 km, which is considered an appropriate likely zone of influence. These records, along with the report Ecological Appraisal - Portishead Railway (Halcrow, 2011) were reviewed for dormice records. The desk study revealed historic record of dormice on the edge of Portishead and at Ham Green Lake and another at Leigh Woods (2007) National Nature Reserve (“NNR”).

While much of the operational railway through Leigh Woods passes through habitat suitable for dormice, the section of the route south of Clifton Tunnel No. 1 was selected for the dormice survey due to the potential need for vegetation clearance to accommodate the emerging design. A survey was also undertaken along an access track which connects Chapel Pill Lane in Ham Green to Pill Tunnel portal. This track may be widened to provide emergency access to Pill Tunnel. The survey followed recognised survey guidance (Chanin & Woods, 2003) using dormice nest tubes.

Tubes at Leigh Woods and Ham Green were checked for the presence of dormice and also for signs of constructed dormice nests monthly. Evidence of dormouse activity in the surrounding habitat was also searched for and noted if present, including stripped honeysuckle *Lonicera periclymenum* bark, nests and feeding signs from gnawed hazelnuts.

Although dormice were not found during the surveys the biological records indicate that dormice are present in adjacent habitat within dispersal range of the DCO Scheme along both the operational freight and disused lines. As such it should be assumed that dormice are present and using the DCO Scheme site.



SECTION 1

# Introduction

## 1.1 Background to the DCO Scheme

- 1.1.1 The Portishead Branch Line was built in the 1860s. Passenger services continued between Portishead and Bristol until 1964, and freight services continued to 1981. The Royal Portbury Dock opened in 1978 and in 2002 the currently operational part of the former Portishead Branch Line was re-opened to service the port for freight only. The owner of the Royal Portbury Dock, Bristol Port Company, has commercial rights to run up to 20 freight trains per day in each direction along the operational railway line. The current volume of freight trains operating is substantially less than this.
- 1.1.2 MetroWest Phase 1 proposes to re-open the disused section of the Portishead Branch Line from Portishead to Pill and operate an hourly passenger service between Portishead and Bristol Temple Meads. In order to reintroduce passenger services the remaining section of disused railway between Portishead and Pill has to be rebuilt including a new station at Portishead and the re-opening of the former Pill station. The project is a nationally significant infrastructure project ("NSIP") as defined by the Planning Act 2008 and therefore a Development Consent Order ("DCO") is required for powers to build and operate the railway, as well as to acquire land, where it cannot be acquired by negotiation.
- 1.1.3 The DCO Scheme also comprises a number of associated improvements to the rail network from Pill to Ashton Vale (Ashton Junction) to enable the operation of an hourly train service (or an hourly service plus) between Portishead and Bristol Temple Meads.
- 1.1.4 The NSIP as defined under the Planning Act 2008, is a permanent railway of approximately 5,450 metres long from Quays Avenue, Portishead, North Somerset (OSGR ST471765) to Pill in North Somerset (OSGR ST520762). It comprises the reconstruction of 4,750 metres of disused railway from Quays Avenue in Portishead to the existing operational railway (the Portbury freight line) to the east of the M5 Motorway). The NSIP then comprises 750 metres of new track through Pill village parallel to the operational railway line from Portbury Dock. The NSIP terminates at a new junction east of Pill Viaduct (Pill Junction), where it connects with the existing operational railway.
- 1.1.5 The associated permanent works in summary include:
- A new station, station building, forecourt, car parks and highway modifications in Portishead,
  - New Trinity Primary School footbridge in Portishead,
  - A new maintenance compound and road rail access point off the highway of Sheepway near Portishead,
  - A new access for agricultural purposes to the west of Station Road, Portbury from the Portbury Hundred,
  - Minor works to bridges and structures along the disused railway,
  - Works to widen and strengthen the embankment where the disused railway meets the operational railway at Lodway Close, Pill,
  - Replacing an existing rail bridge over the Avon Road / Lodway Close pedestrian and cycle underpass (to the west of Pill station) with a new wider bridge to support a new double track section of railway,

- Minor alterations to the Bridleway (LA8/66/10) and National Cycle Route 26 south of Royal Portbury Dock,
  - Extension of bridleway LA8/67/10 north of the M5 underbridge to connect with the National Cycle Route 41 to the east of the M5 that connects with Pill,
  - Construction of a new station at Pill on the site of the existing southern platform, with new access, forecourt and car park located on Monmouth Road,
  - A new emergency and maintenance accesses to Pill Tunnel eastern portal,
  - A new vehicular maintenance road rail access point from the highway of Clanage Road, Bower Ashton to the Portishead Branch Line Railway,
  - Various improvement works along the operational railway line between Pill and Ashton Junction,
  - Whilst the Ashton Vale Road (Ashton Junction) level crossing will remain operational, the following works are proposed to reduce the highway traffic from the increased use of the level crossing:
    - Extension of the left turn flare lane on Winterstoke Road,
    - Optimisation of the Ashton Vale Road signals, and upgrade of signals to “MOVA”, and
    - Provision of a ramp to the north of the level crossing to connect pedestrians and cyclists from Ashton Vale Road to Ashton Road.
  - In light of the possibility that Baron’s Close pedestrian level crossing may not be closed permanently before MetroWest Phase 1 opens, MetroWest Phase 1 is proposing to close it as part of the DCO Scheme. Alternative pedestrian access will be provided, using a pedestrian and cycle path (currently under construction by the MetroBus scheme) linking to the Ashton Vale Road level crossing and the proposed MetroWest Phase 1 pedestrian / cycle ramp.
- 1.1.6 Improvements are also required along the operational railway line between Pill Junction and Ashton Junction, including replacement of ballast, minor works to bridges and structures, minor modifications to the vertical and horizontal alignment of the railway and new signalling, telecommunications including a mast in Avon Gorge and aerials at Pill Tunnel and Portishead station and new fencing for the entire branch line, where natural boundaries are not sufficient.
- 1.1.7 Refer to the Preliminary Environmental Information Report (“PEI Report”) Chapter 4 for the fully detailed project description.

## 1.2 Protected Species Survey

- 1.2.1 CH2M was commissioned by North Somerset District Council (“NSDC”) to undertake a dormice *Muscardinus avellanarius* survey along part of the route of the Portishead Branch Line (MetroWest Phase 1) DCO Scheme. The need for a dormice survey was recommended in the Ecological Appraisal Report (CH2M Hill, 2015)<sup>1</sup>.
- 1.2.2 The sections of the DCO Scheme considered in this report encompass:

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<sup>1</sup> A copy of this report is incorporated into the MetroWest Baseline Report which can be downloaded from the Planning Inspectorate’s planning portal for this project at <https://infrastructure.planninginspectorate.gov.uk/projects/south-west/portishead-branch-line-metrowest-phase-1/?ipcsection=docs>



- The operational railway and adjacent River Avon Tow Path between Clifton Tunnel No. 1 (NGR ST56427303) and Clifton Bridge carrying the tow path across the railway (NGR ST56587236). This section lies in Leigh Woods National Nature Reserve (“NNR”), which forms part of the Avon Gorge Woodlands Special Area of Conservation (“SAC”) and Avon Gorge Site of Special Scientific Interest (“SSSI”). While much of the operational railway through the gorge passes through habitat suitable for dormice, the section of the route south of Clifton Tunnel No. 1 was selected for the dormice survey due to the potential need for vegetation clearance to accommodate the emerging design.
- An access track which connects Chapel Pill Lane in Ham Green to Pill Tunnel portal (OSGR ST533755). This track may be widened to provide emergency access to Pill Tunnel.

1.2.3 These sections extend over a distance of approximately 700 m.

## 1.3 Objectives

1.3.1 The objectives of this dormice survey are:

- to determine whether habitats surveyed are suitable for dormice;
- to identify the presence or likely absence of dormouse populations within the site;
- to assess the importance of the dormouse population where present; and
- where the presence of dormice is confirmed, to make a preliminary assessment of the likely need for a Natural England licence.

## 1.4 Structure of this Report

1.4.1 This report is structured along the following lines:

- Section 1 provides a brief introduction to the DCO Scheme and the dormouse survey
- Section 2 describes the approach to the dormouse survey
- Section 3 sets out the legislative framework for the protection of dormice
- Section 4 presents the results of the survey in the form of the baseline conditions
- Section 5 presents the conclusions.



SECTION 2

# Methodology

## 2.1 Desk Study

- 2.1.1 A desk study was carried out as part of the Ecological Appraisal Report (CH2M Hill, 2014), in which Bristol Regional Environmental Records Centre ("BRERC") dormice records were provided. The search area included the railway corridor and the surrounding area to 1 km, which is considered an appropriate likely zone of influence. These records, along with the report Ecological Appraisal - Portishead Railway (Halcrow, 2011) were reviewed for dormice records.
- 2.1.2 This review exercise is valuable in identifying past dormice records and concentrating survey effort where dormice have previously been recorded. Understanding nature conservation issues within the wider area helps in the assessment of the ecological value of a site and the habitats and species that a site supports.
- 2.1.3 Where applicable, information supplied has been incorporated into the following account with due acknowledgement where they are particularly informative or relevant.

## 2.2 Field Survey

- 2.2.1 Dormice surveys were undertaken where works are proposed for the Portishead Branch Line (MetroWest Phase 1) DCO Scheme where habitat has good potential for dormice and where dormice had been previously recorded.
- 2.2.2 In accordance with recognised survey guidance (Chanin & Woods, 2003) a total of 60 dormice nest tubes were placed in areas of suitable habitat (hedgerows, scrub and woodland) on the 29<sup>th</sup> and 30<sup>th</sup> April 2015. Of these, 50 tubes were located either side of the Network Rail land ownership boundary and along the River Avon Tow Path to the south of the Clifton Suspension Bridge where the track passes through Leigh Woods (OSGR ST564727). The remaining 10 tubes were placed along an access track between Chapel Pill Lane in Ham Green and Pill Tunnel eastern portal (OSGR ST533755).



Figure 2-1: Dormouse nest tube.

- 2.2.3 Figure 2-1 illustrates how the tubes were attached to trees in the survey area. The tube number, grid reference and a description of where the tube was located, including species of tree the tube was attached to, was recorded and high visibility tape attached nearby to aid identification of the tubes.
- 2.2.4 The dormouse conservation handbook (Bright, P., Morris, P., and Mitchell-Jones, A., 2006) states that using 50 nest tubes as standard, a score can be derived as shown in Table 2-1. Each month is given an index of probability of finding dormouse nests which is used as an indicator of the thoroughness of a survey. Assumed absence should not be based on an index of less than 20. The survey was undertaken between May and September 2015, which scores an index of probability of 20.
- 2.2.5 Nest tubes at Leigh Woods and Ham Green were checked for the presence of dormice and also for signs of constructed dormice nests on five dates, 20<sup>th</sup> May, 23<sup>rd</sup> June, 29<sup>th</sup> July, 19<sup>th</sup> August and 25<sup>th</sup> September 2015. Evidence of dormouse activity in the surrounding habitat was also searched for and noted if present, including stripped honeysuckle *Lonicera periclymenum* bark, nests and feeding signs from gnawed hazelnuts.

Table 2-1: Index of probability of finding 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: The dormouse conservation handbook. Bright, P., Morris, P., and Mitchell-Jones, A., 2006.

## 2.3 Limitations

- 2.3.1 The nest tubes were only erected in habitat reachable from the track along the operational railway line. Although dormice tend to favour edge habitat of woodlands, the constraints of working within Network Rail's land boundary meant that in some cases the most optimal habitat could not be accessed.
- 2.3.2 These limitations are taken fully into consideration in the evaluation of this report.
- 2.3.3 All work carried out in preparing this report is based upon CH2M's current professional knowledge and understanding of current relevant UK standards, best practice and legislation. Changes in this legislation and guidance may occur in the future and lead to the review of the conclusions.

## 2.4 Evaluation

- 2.4.1 The ecological value of the dormice population has been determined based on the guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2006). The level of value of specific ecological receptors is assigned using a geographic frame of reference, with international value being most important, then national, regional,

county, district, local and lastly, within the immediate zone of influence of the scheme area only.

- 2.4.2 The evaluation is made using a variety of characteristics, including the rarity of populations, either locally or within a wider area, the vulnerability of species (for example, to disturbance or fragmentation from other populations), and statutory recognition of biodiversity importance through inclusion in local or national biodiversity action plans. Note that legal protection is not in itself a consideration in the evaluation of species.



SECTION 3

## Legislative Framework

### 3.1 Legislative Framework

3.1.1 Dormice are fully protected under Schedule 2 of the Conservation of Habitat and Species Regulations, 2010 (as amended), and Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Taken together, the Acts and Regulations make it an offence to:

- intentionally capture, kill or injure a dormouse;
- deliberately disturb a dormouse or damage or destroy a dormouse breeding site or resting place;
- possess or transport a dormouse or any part of a dormouse; and
- sell, barter or exchange dormice or parts of dormice.

3.1.2 In addition, dormice are a Species of Principal Importance under Section 41 of the Natural Environment and Rural Communities Act 2006. Under this Act, all local and public authorities in England and Wales have a duty to promote and enhance biodiversity in all of their functions.





SECTION 4

## Baseline Conditions

### 4.1 Context

- 4.1.1 The DCO Scheme is approximately 13.7 km long, extending between Portishead in the west and Ashton Junction on the outskirts of Bristol. The operational railway line continues to Parson Street Junction where it joins the south west main line between Bristol and Exeter. The DCO Scheme passes through (from west to east):
- a currently disused section of railway bordered by commercial and residential areas in Portishead;
  - rural fields around Sheepway and south of Royal Portbury Dock;
  - the residential areas of Pill where the disused section of the railway joins the operational railway line;
  - open countryside and along the western edge of the River Avon and through the Avon Gorge Woodlands SAC and Avon Woods SSSI – these two designations are co-incident in area, and represent a European and national level designations; and
  - then into residential areas on the outskirts of Bristol through Bower Ashton and Ashton Gate.
- 4.1.2 Fences and walls bound the majority of the DCO Scheme to either side. There are a number of road bridges and underpasses crossing the site, four railway tunnels, and a viaduct at Pill.
- 4.1.3 Much of the terrain between Portishead and Pill is low lying coastal plain while the section through the Avon Gorge is characterised by steep woodland and exposed cliffs.

### 4.2 Desk Study

- 4.2.1 The desk study revealed one historic record of dormice on the edge of Portishead in 2009. Woodland scrub and hedgerows connect the disused rail corridor to this record.
- 4.2.2 Along the operational freight line section there is potential for dormice to be present throughout the Avon Gorge Woodlands SAC and Avon Woods SSSI and in adjoining woodland and scrub. The desk study revealed two historic records of dormice within the search area, one at Ham Green Lake and another at Leigh Woods NNR.

### 4.3 Field Survey

- 4.3.1 The locations of the dormice nest tubes have been mapped and are presented in Figure 1 and 2 in Annex A. The results of the dormice surveys are presented in Tables 4-1 and 4-2 below. No dormice or evidence of dormice was found. Nests of wood mice *Apodemus sylvaticus* and / or yellow-necked mouse *Apodemus flavicollis* were recorded (positive identification to species was not possible due to nests being similar).

Table 4-1: Dormice Survey Results – Leigh Woods

Site	Survey Month				
	May	June	July	August	September
Evidence of dormice	None	None	None	None	None
Evidence of other species	None	None	Loose piles of dead leaves	None	Six loose dead leaves and bark nests. Blackberry remains

Table 4-2: Dormice Survey Results – Ham Green

Site	Survey Month				
	May	June	July	August	September
Evidence of dormice	None	None	None	None	None
Evidence of other species	None	None	None	None	None

SECTION 5

## Conclusions

- 5.1.1 Although the nest tube surveys did not record dormice presence, dormice populations have been recorded within Leigh Woods and around Ham Green Lake and at Portishead. Habitat consistent with dormice use, namely woodland and scrub is present along both the disused and operational railway. It is therefore considered probable that the populations present are small and have a number of more preferable refuge resources so detectability was low during the surveys.
- 5.1.2 The ES will identify and assess likely significant effects on Dormice, including proposed mitigation measures.



SECTION 6

## References and Bibliography

Bright, P., Morris, P., and Mitchell-Jones, A., 2006. *The Dormouse Conservation Handbook*. Second Edition, English Nature, Peterborough.

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Multi-Agency Geographic Information for the Countryside: <http://magic.defra.gov.uk/>  
<https://www.gov.uk/guidance/hazel-or-common-dormice-surveys-and-mitigation-for-development-projects>

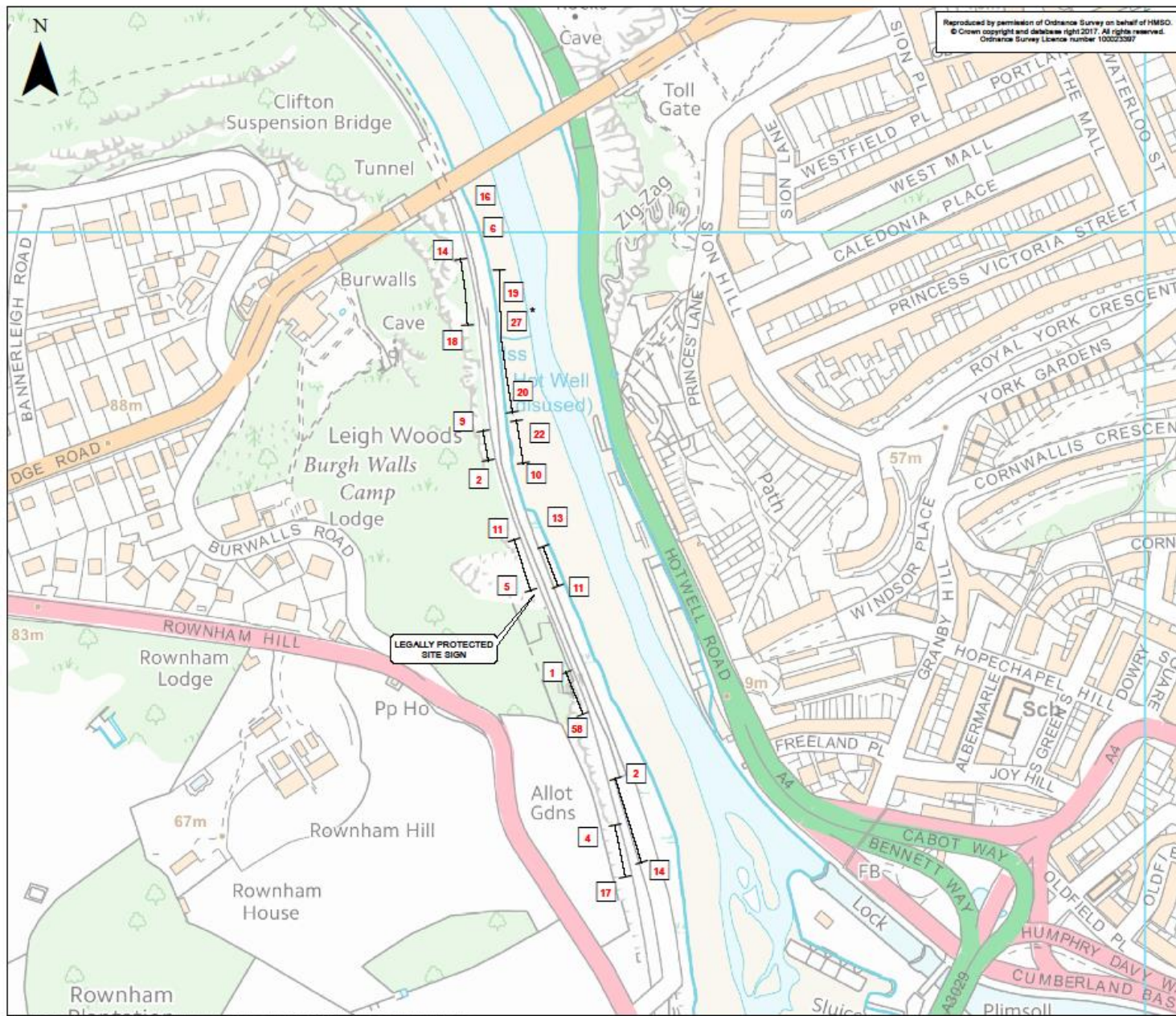
Wildlife and Countryside Act (1981) as amended:  
<http://www.legislation.gov.uk/ukpga/1981/69>

Wild Mammals (Protection) Act (1996):  
<http://www.legislation.gov.uk/ukpga/1996/3/contents>

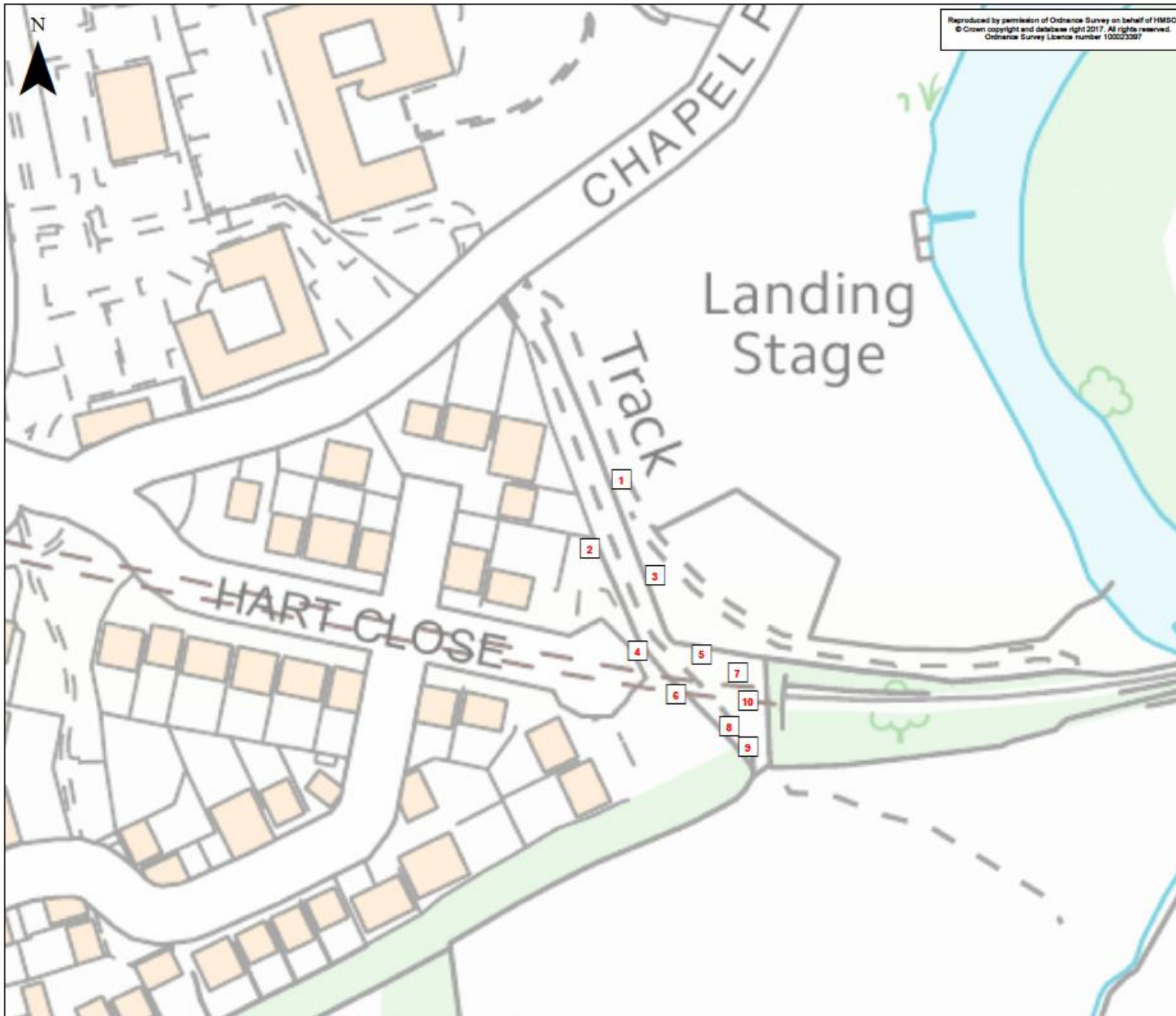


## Annex A

### Dormice Nest Tube Locations







# KEY

- 1 Dormouse Tube Identification Number & Location



Client  
travelwest  
Sustainable Transport Solutions

CH2M HILL  
Geospatial  
Bundock Park, Swindon, SN4 0DD  
Tel: +44 (0)1753 815479 Fax: +44 (0)1753 810088  
www.ch2m.com

ch2m

Project: Portishead Branch Line  
(MetroWest Phase 1)

Drawing:  
Figure 2: Dormouse Nest Tube  
Locations - Ham Green

Drawn By: Tim Currie Date: 25/08/2017

Checked By: Debbie Macdonald Date: 25/08/2017

Approved By: Carolyn Francis Date: 25/08/2017

Drawing No: 400327-008-20 Revision: 1

Drawing Scale: 1:1,000 @ A3

