Ashfield Land Management and Gazeley GLP Northampton s.à.r.l

Annex G: Otter and Water Vole Survey Report

Rail Central

855950

FEBRUARY 2018

RSK GENERAL NOTES

Project No.: 855950

Title: Rail Central Otter and Water Vole Survey Report

Client: Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l

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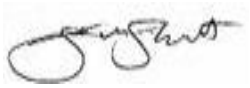
Author	Jan Skuriat	**Technical reviewer**	Roberta Epps
Signature		Signature	
Date:	8 February 2018	Date:	8 February 2018
Project Manager	Tom Coyne	**Quality reviewer**	Roberta Epps
Signature		Signature	
Date:	8 February 2018	Date:	8 February 2018

CONTENTS

EXECUTIVE SUMMARY

1. This report presents the results of Otter and Water Vole surveys carried out in 2016 and 2017 in connection with a proposed new strategic rail freight interchange on land south of Milton Malsor, Northamptonshire (Ordnance Survey Grid reference: SP 73363 54488) (the Proposed Development Area (PDA)).

2. Surveys at the Main SFRI Site were undertaken on 3 May and 27 July 2016 by Jan Skuriat and Dean Lefeuvre of RSK Environment. Surveys at the Junction 15a Site were undertaken by Jan Skuriat and Tom Coyne on 19 July 2017, 20 July 2017 and 2 August 2017. All surveyors are skilled in animal and botanical habitat surveys and have extensive experience of identifying field signs and assessing habitats for use by Otter and Water Vole.

3. Watercourses and associated riparian habitats suitable for both Otter and Water Vole were recorded on the Main SRFI Site and the Junction 15a Site. The Grand Union Canal was considered excellent for Otter and Water Vole but other watercourses were considered less suitable.

4. Otter evidence was recorded on the Grand Union Canal and the Milton Malsor brook within the Main SRFI Site during the surveys. There are no habitats within the main SRFI site that are considered suitable for Otter holts.

5. Otter evidence was found on the Grand Union Canal that passes through the Junction 15a Site and also on the stream within the site boundary. There are no habitats within the Junction 15a Site that are considered suitable for Otter holts

6. No evidence of Water Vole was found during the surveys despite suitable habitat within both sites.

7. Up to date surveys are needed to ensure no protected Otter resting places are to be affected by the proposed works either inside the Potential Decelopment Area (PDA) or within 200m, primarily along the Grand Union Canal. Mitigation must be put in place to ensure there are no negative impacts of the scheme to Otters.

8. The canal corridor will not be obstructed during construction. There will be no night working at the canal, to ensure otters are not disturbed during foraging and commuting. Any open excavations will be covered or provisioned with an access ramp for Otters and small mammals.

9. The surveys are sufficient to prove the likely absence of Water Voles on site. As this species is considered absent, there is no legal imperative to consider this species further where compensation or mitigation are concerned.

1 INTRODUCTION

Purpose of this Report

This report summarises the results of Otter (*Lutra lutra*) and Water Vole (*Arvicola amphibius*) surveys carried out in connection with a proposed strategic rail freight interchange. The aim of the surveys was to determine the presence or likely absence of Water Voles and Otters on five watercourses (including the Grand Union Canal) across, and abutting, the Main SRFI Site and the Junction 15a Site.

Ecological Context

The Main SRFI Site, which comprises a total of approximately 250 hectares of mainly arable land, is bound to the east by the Northampton Loop Line and to the south by the West Coast Main Line, beyond which lie agricultural fields and the village of Blisworth. To the north, the site is bound by further agricultural fields and the village of Milton Malsor. The A43 bounds the site to the west. Northampton Road/Towcester Road runs through the site from north to south.

The topography of the site is such that it sits in a natural bowl. Watercourses on site are small and mainly limited to ditches, the largest being the Milton Malsor Brook that is a minor tributary to the River Nene, joining the River at Northampton. The Grand Union Canal abuts the site to the south west but is outside the red line boundary. *Figure G1*.1 illustrates the location of the site and location of watercourses.

The Junction 15a site lies to the north-west of the Main SRFI Site and the village of Milton Malsor and just south of the outskirts of Northampton. The site occupies an area of intensive arable farmland and pastoral grazing land and the Junction 15a services are adjacent to its western boundary. Both the M1 and A43 run through the site, west to east and north to south respectively, these are surrounded by roadside scrub and trees. The Grand Union Canal runs north to south through the site. Scattered areas of wet woodland and marshland also surround the canal.

The location and aerial images of both the Main SRFI Site and the Junction 15a Site can be found in *Figure G1.1 and G1.2*.

Structure of this Report

The remainder of the report is structured as follows:

- *Section 2* describes the survey methods;
- *Sections 3 and 4* summarises the results;
- *Section 5* details the evaluations and conclusions; and
- *Section 6* lists the documents referenced in this report;

Appendix A provides the relevant legislation

Appendix B provides the figures and plates

2 METHODS

General

Surveys at the Main SFRI Site were undertaken on 3 May and 27 July 2016 by Jan Skuriat and Dean Lefeuvre of RSK Environment. Surveys at the Junction 15a Site were undertaken by Jan Skuriat and Tom Coyne on 19 July, 20 July and 2 August 2017. All surveyors are skilled in animal and botanical habitat surveys and have extensive experience of identifying field signs and assessing habitats for use by Otter and Water Vole. Jan Skuriat has 17 years experience of survey for Water Voles and is a holder Natural England Class Licence CL 31 to displace Water Voles. Jan is a Full Member of the Chartered Institute of Ecologists and Environmental Managers (CIEEM).

The weather conditions are described in *Table G1*.

Table G1: Weather Conditions Recorded during the Field Surveys

Date	Air Temperature	Cloud Cover	Wind Speed and Direction	Precipitation
03/05/2016	15 °C	50 %	2 Beaufort South- westerly	Dry
27/07/2016	30 ºC	10%	None	Dry
19/07/2017	18oC	30%	3 Beaufort	Dry
20/07/2017	17oC	50%	None	Dry
02/08/2017	20oC	20%	2 Beaufort	Dry

The prevailing water levels at time of field survey were average, with no recent flood events.

Otter

All four watercourses and adjacent habitat were initially assessed on their suitability for Otters. This included an assessment of water depth, water quality, vegetation and cover.

Survey then comprised a detailed search for signs of Otter activity (see *Section 2,3*) , including spraint (droppings), footprints, slides, paths, feeding evidence, holts (underground resting places) or couches (temporary resting places).

A Background Data Search (gathering information from national websites, local record centres, councils, local wildlife groups *etc*) was also completed and the results are provided here.

Water Vole

A detailed Water Vole survey was undertaken in line with guidance from The Mammal Society (Dean et al, 2016) and the Chartered Institute of Ecology and Environmental Management (CIEEM 2016) and comprised:

- a Background Data Search (gathering information from national websites, local record centres, councils, local wildlife groups *etc*);
- a review of maps and aerial photography looking for wetlands and aquatic habitats within 2km of the site;
- a field assessment of the suitability of the habitat for Water Vole; and

detailed surveys for field signs indicating presence, or probable presence, of Water Vole (see *Section 2.3*).

Background Data Search

A search was made in September 2016 and updated in 2017, for reference materials relating to the ecology of the Main SRFI, a list of sources is given in *Table G2* below.

Table G2: Data Sources

Information Obtained	Available From
Protected and Noteworthy species-records	Northamptonshire Biodiversity Records Centre
Designated site locations and citations	Natural England website
Designated site locations and citations	Northamptonshire Biodiversity Records Centre
Designations and legal protection of noteworthy species	Joint Nature Conservation Committee (JNCC) website
Details of species and habitats listed on the LBAP	Local BAP website

A search was made for information on statutory designated sites (often internationally and nationally important sites for ecology) and non-statutory designated sites (often important in a local context) within 2 km of the site boundary which might have Otters and/or Water Voles listed on their citations. A search was also made for individual records of Otter and Water vole within the same 2 km area

Field Surveys

Otter

Habitat Assessment

Habitats were assessed on their potential to support Otters according to subjective criteria, which were then used to categorize habitat according to suitability for the species. The following habitat factors are taken into consideration:

- water quality;
- water-level regime;
- channel dimensions;
- bank type and material;
- vegetation for cover and food sources;
- shading;
- predation and competition; and
- habitat management.

Presence/Likely Absence Survey

Habitats with potential to support Otter were surveyed within the site boundary, and on larger watercourses (the Grand Union Canal) up to 2 km distance from the Main SRFI Site and the Junction 15a SiteSurvey methods followed Chanin (1993). All of the suitable bank-side and water-edge habitats were systematically and thoroughly searched for field signs of the species including:

- spraint (droppings);
- footprints, slides;
- paths;
- feeding evidence:
- holts (underground resting places): or
- couches (temporary resting places).

Where evidence of Otters was found it was recorded to Target Notes in the back of this report and to the associated map of site.

Water Vole

Habitat Assessment

The suitability of the habitat for Water Vole was assessed using the following criteria (Dean et al, 2016):

- Bank profile;
- Bank substrate, specifically its suitability for burrowing;
- Water depth;
- Likely frequency and height of water level changes, relative to bank height;
- Amount of shading from trees/shrubs;
  Bankside herbaceous vegetation type (tall tussocky grass, tall grasses/weeds, closely mown grass, etc.);
- Bankside herbaceous vegetation density;
- In-channel herbaceous vegetation type;
- In-channel herbaceous vegetation width (from toe of bank – the point at which the
- bank meets water level);
- In-channel herbaceous vegetation density;

- Percentage of the channel with in-channel herbaceous vegetation;
- Evidence of current or recent management, and the likely effects of management;
- Any other relevant factors.

The five watercourses noted from preliminary Phase 1 surveys were walked and assessed on their potential to support Water Voles. Where the surveyor considered that there was suitable habitat present, the watercourse was searched for evidence of Water Vole activity. The Grand Union Canal (off site) was searched for 2km distance in both in all directions from site.

Presence/Likely Absence Survey

In habitats with potential to support Water Vole, surveys for evidence of Water Vole activity were carried out following standard methods from Dean et al (2016). All of the suitable bank-side and water-edge habitats were systematically and thoroughly searched for field signs of the species including:

- burrows;
- feeding platforms and evidence of feeding;
- food remains;
- latrines; and
- footprints.

The apparent size and distribution of Water Vole populations can be affected by changes in habitat suitability during the breeding season. Therefore, two surveys for field signs indicating presence, or possible presence, of Water Vole are routinely required (Dean et al, 2016). The impacts of a development on Water Voles can be assessed more robustly using data collected during two surveys. In particular, this applies where different parts of site are used during different periods of the breeding season. Therefore, two surveys (one in Spring and one in Summer) were undertaken as recommended by Dean et al.

Where Water Vole presence is confirmed, estimates of latrine density can be used to indicate the relative size of the population and highlight the areas of most value to the species. Subdivision of the survey area(s) into 'low', 'medium' or 'high' relative population densities, could enable interpretation of the site, as illustrated in *Table G3* (Dean et al, 2016):

Table G3: Approximate Latrine Numbers and Relative Population Density

Relative Population Density	Approximate number of latrines per 100m of bankside habitat	
	First half of survey season (mid-April to end of June)	Second half of survey season (July to end of September)
High	10 or more	20 or more
Medium	3-9	6-19
Low	≤ 2 (or none, but with confirmatory signs)	≤ 5 (or none, but with confirmatory signs)

Classification of Habitat Suitability for Otter and Water Vole

Classification of habitat suitability was made as follows:

- *Excellent* – optimal habitat with good cover, food sources and other features that would allow Otter or Water Vole populations to thrive throughout the year.
- *Suitable* – habitat that has all the elements required by Otter or Water Vole, certainly in the summer, and probably through most winters.
- *Marginal* – habitat that has some of the features that are suitable for Otter or Water Vole, but with some constraints so that suitability throughout the year is not certain.
- *Unsuitable* – habitat lacking one or more crucial element for use by Otters or Water Voles. This category does not necessarily preclude the habitat being used by Otter or Water Voles, but it would not be able to support a resident population.

Survey Constraints

There were no constraints to the surveys, all areas were accessed to the satisfaction of the surveyors and weather conditions were appropriate to the level of survey with no recent floods or great fluctuations in water levels.

3 RESULTS – MAIN SRFI SITE & JUNCTION 15A SITE

Background Data Search

Species Records

A search was made in September 2016 for reference materials relating to Otters and Water Voles on, and within 2 km, of the Rail Central site *Table G4* below:

Table G4: Protected Species Records within 2 km of the Site Boundary

Latin Name	Common Name	Designation	Within 100m	Within 1km	Within 2km
Arvicola amphibius	Water Vole	WCA5.9.4a	**P**	☒	☒
Lutra lutra	Otter	EPS (Sch2), WCA5	☒	☒	☒

Preliminary Otter and Water Vole Habitat Assessment

A review of Ordnance Survey maps and aerial photography identified potential suitable habitat and possible links between these areas and the site. These areas are shown on *Figure G2.1* and *Figure G2.2* and photographs are provided in *Plate G1.1* in the *Appendix*.

- Watercourse 1 Grand Union Canal, off site from the Main SRFI site but within the Junction 15a site.
- Watercourse 2 a stream/brook.
- Watercourse 3 a ditch.
- Watercourse 4 a ditch.
- Watercourse 5 a stream/brook.

Other potentially suitable habitat were assessed during the detailed surveys and discounted, most often as these features where ephemeral or dry.

Field Survey Results

The results of the habitat assessment and the presence/likely absence survey for Otter and Water Vole are set out in *Table G5.*

Table G5 ; Otter and Water Vole Survey Results

Watercourse	Habitat Assessment	Surrounding Habitat	Habitat Classification Otter / Water Vole	Otter	Water Vole signs
1	Grand Union Canal , Steep banks, mostly sheet piling but, some areas with substrate soft/suitable for burrowing, consistent water level, tall tussocky grass on bank, 50% cover of in-channel herbaceous vegetation, etc	Woods, pasture , arable, towpath.	Otter, Excellent Water Vole Excellent/ Suitable	Present, spriant recorded throughout survey reach (*Figure G2.1 and G2.2*)	Absent
2	Steep earth banks, variable water level, dense aquatic vegetation , partially shaded in some sections	Arable, scrub, field margins	Otter Marginal Water Vole Suitable	Present. Spraint recorded incidentallya t the northern end of the site during surveys for crayfish.	Absent
3	Steep earth banks, dense aquatic vegetation , mainly open in aspect but partially shaded in some sections by trees and hedge,	Arable land , a hedge, pasture, scrub, field margins.	Otter Marginal Water Vole Suitable	Absent	Absent
4	Steep earth banks, mainly shaded by hedge, some sections with good marginal and aquatic vegetation	Arable land , a hedge, pasture, scrub, field margins.	Otter Unsuitable Water Vole Suitable	Absent	Absent
5	Steep earth banks	Arable land, hedge, trees and scrub	Otter Suitable Water Vole Marginal	Present, spraint and crayfish feeding remains	Absent

4 RESULTS – OTHER MINOR HIGHWAY WORKS

Locations where minor highway works are proposed have been considered in relation to otters and water voles. As the works are all within the adopted highway, and no watercourses are affected, no adverse effects to otters or water voles are predicted.

5 EVALUATION AND CONCLUSIONS

Otter

Extensive Otter evidence was recorded on the Grand Union Canal that borders and is outside the main SRFI site and Junction 15a site.

A single otter spraint was recorded along the Milton Malsor brook on the Main SRFI site which indicates only very occasional use of watercourses within the site boundary by the species.

This is unsurprising given that watercourses on site (watercourses 2, 3 and 4) are only considered 'marginal' for the species. There are no habitats on site that are considered suitable for otter holts.

At the Grand Union Canal Otter spraint was found under a road bridge and throughout the survey reach near canal locks (*Figure G2.1 and G2.2*). The Grand Union Canal represents excellent habitat for the species in some sections. It is highly likely that Otters regularly use the canal. Because otters are transient animals, monitoring surveys are required to ensure no recently recated protected resting places are to be affected by the proposed works. Mitigation will be put in place to ensure there are no negative impacts of the scheme to Otters.

The canal corridor will not be obstructed during construction to allow Otters unhindered passage. There will be no night working on or adjacent to the canal.

Water Vole

The surveys are sufficient to prove the likely absence of Water Voles on the Main SRFI Site and the Junction 15a Site. As this species is considered absent, there is no legal imperative to consider this species further where compensation or mitigation are concerned.

6 REFERENCES

Chanin, P. (1993). *Otters*. Whittet Books, London.

Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016). *The Watervole Mitigation Handbook (The Mammal Society Mitigation Guidance Series)*. Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.

Strachan, R. (1998). *Water Vole Conservation Handbook*. Wildlife Conservation Research Unit, Oxford

APPENDIX A: LEGISLATION

Otter

Otter (Lutra lutra) is listed on *Schedule 5* of the Wildlife and Countryside Act 1981 (as amended), and receive full protection under *Section 9*. This species is also listed as European Protected Species on *Schedule 2* of the Conservation of Habitats and Species Regulations 2010 (SI 2010/490) which gives it full protection under Regulation 41. Protection was extended by the Countryside and Rights of Way Act 2000 (the CRoW Act).

Under the above legislation it is an offence to:

- kill, injure or take an individual of such a species;
- possess any part of such species either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb such a species whilst using any place of shelter or protection; or
- sell or attempt to sell any such species.

The Otter is included as Priority Species in the UK Biodiversity Action Plan (UKBAP) and also as species of principal importance for the conservation of biological diversity in England under Section 74 of the CRoW Act.

Water Vole

Water Vole (Arvicola amphibius) is listed on *Schedule 5* of the Wildlife and Countryside Act 1981 (as amended), and receive full protection under *Section 9*.

Under this legislation, it is an offence to:

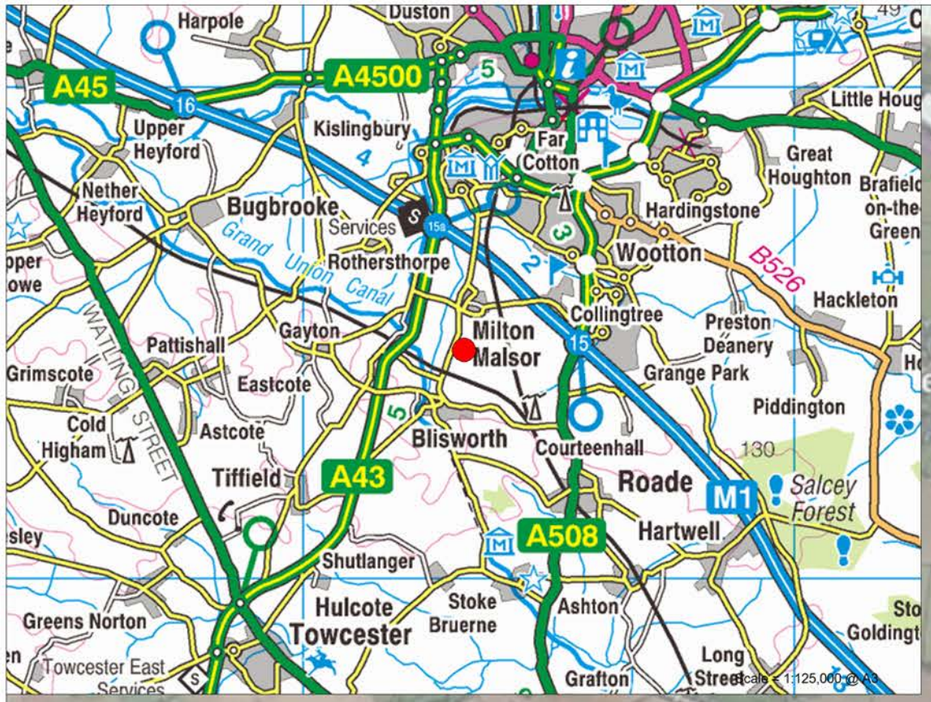
- intentionally kill, injure or take (capture) a Water Vole;
- possess or control alive or dead Water Vole, or any part of a Water Vole;
- intentionally or recklessly damage, destroy or obstruct access to any structure or place which Water Voles use for shelter or protection, or to intentionally or recklessly disturb Water Voles while they are using such a place; or
- sell, offer for sale or advertise for live or dead Water Voles.

The Water Vole is included as a Priority Species in the UK Biodiversity Action Plan (UKBAP).

APPENDIX B: FIGURES

Figure G1.1 – Site Location Plan
Figure G1.2 – Site Location Plan J15a
Figure G2.1 – Survey results

Plate G1.1 Otter and Water Vole Surveys Photos 1-3



Site boundary (July 2017)

Rev	Date	Description	Drn	Chk	App
00	13.07.17	855950	SP	RG	RE

Rail Central

RSK

Figure G1.1

Main SRFI Site
Site Location Plan

0 750
Metres
Scale = 1:25,000 @ A3

N W E S

REV 00

File Name : T:\Projects\Projects 855941 - 855960\855950 - Armtrack\07 GIS\10 - Workspaces

Site boundary (Jan 2018)

Scale = 1:125,000 @ A3

Rev	Date	Description	Drn	Chk	App
00	29.01.18	855950	SP	RG	RE

Rail Central

RSK

Figure G1.2

Junction 15a
Site Location Plan

0 750
Metres
Scale = 1:25,000 @ A3

N W E S

REV 00

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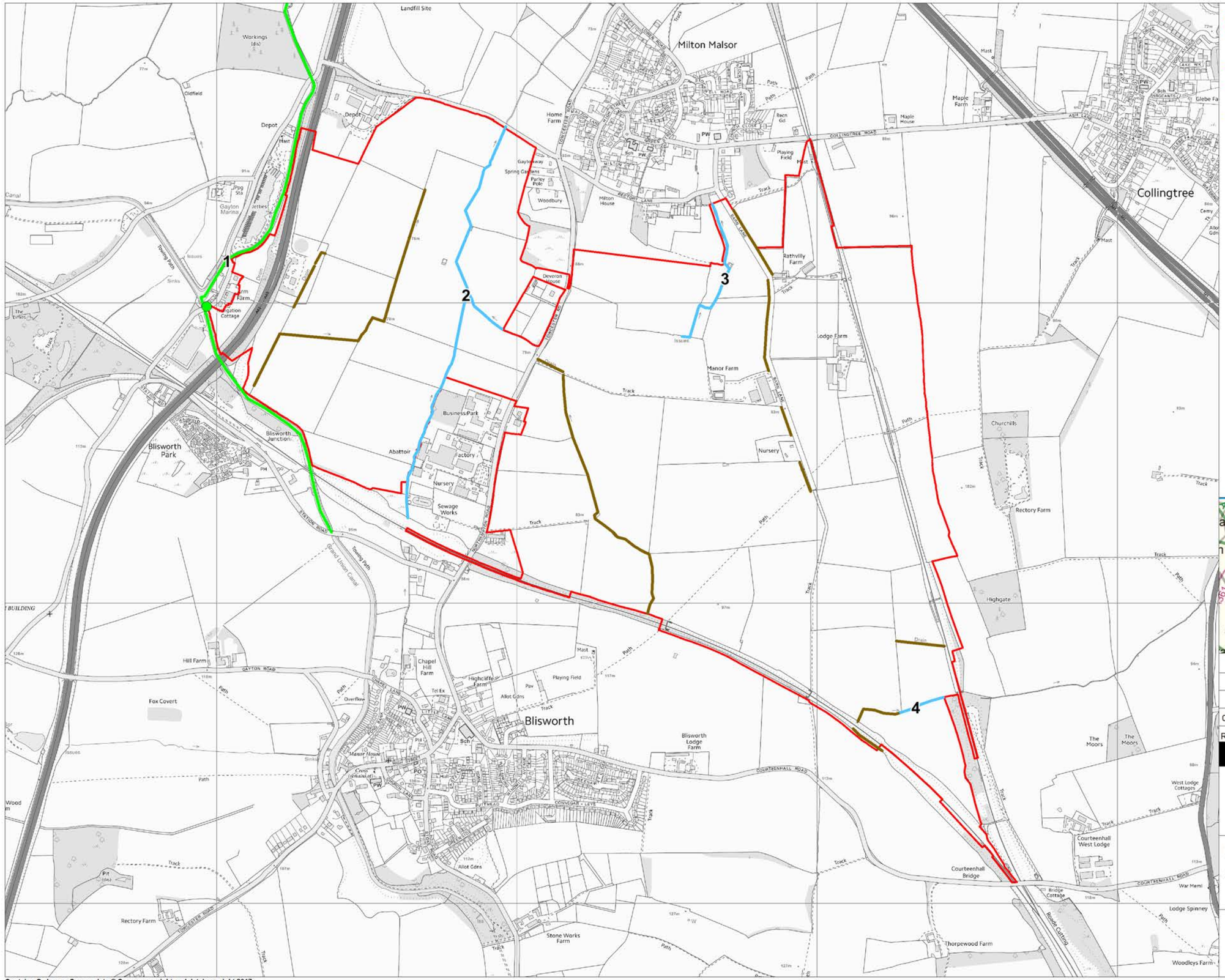

Rev	Date	Description	Drn	Chk	App
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Rail Central

RSK

Figure G2.1

Otter and Water Vole Survey Results

0 375

metres

Scale = 1:12,500 @ A3

N W E S

REV 00

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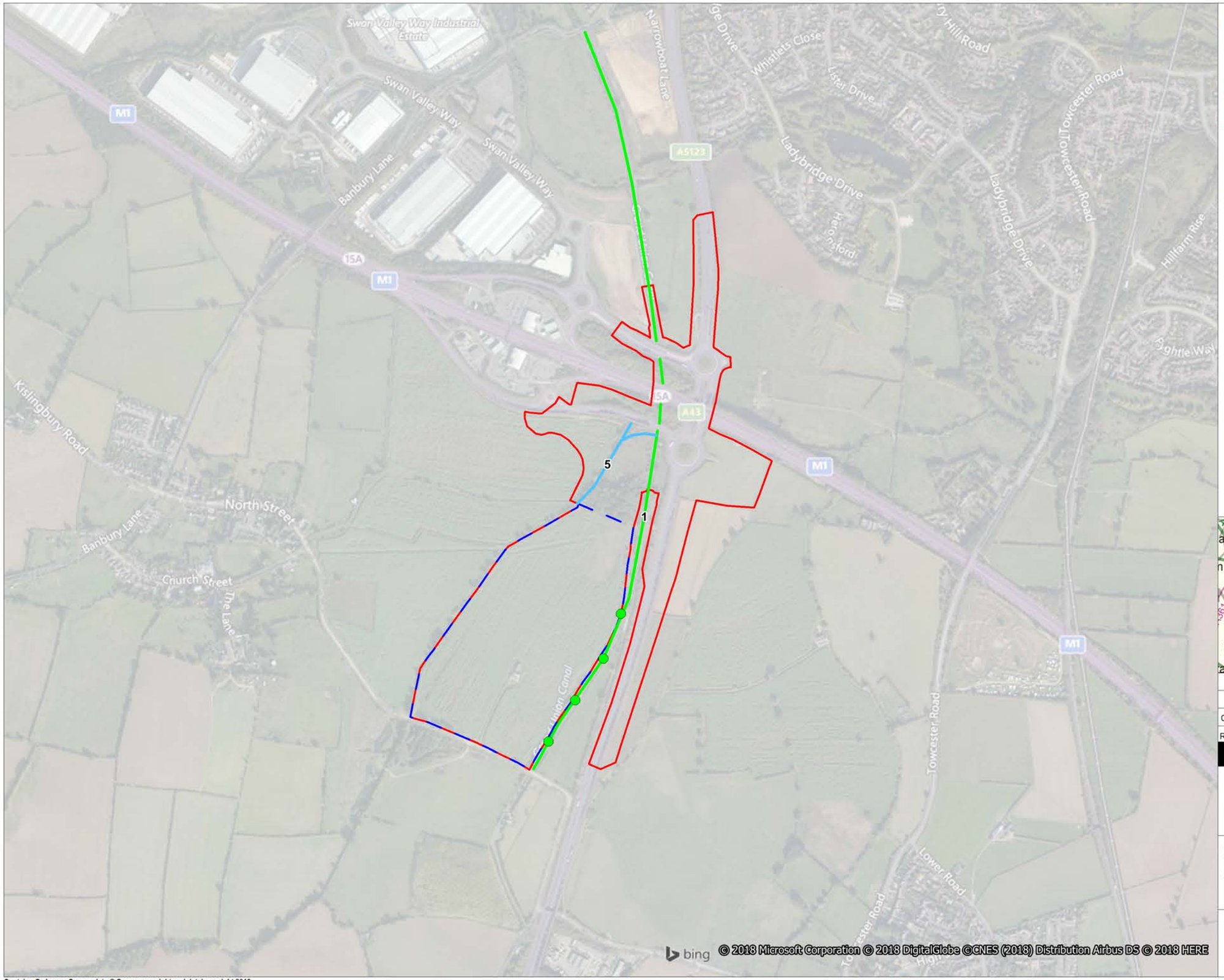

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Rail Central

RSK

Figure G2.2

Otter and Water Vole Survey Results

0 300
metres
Scale = 1:10,000 @ A3

N W E S

REV 00

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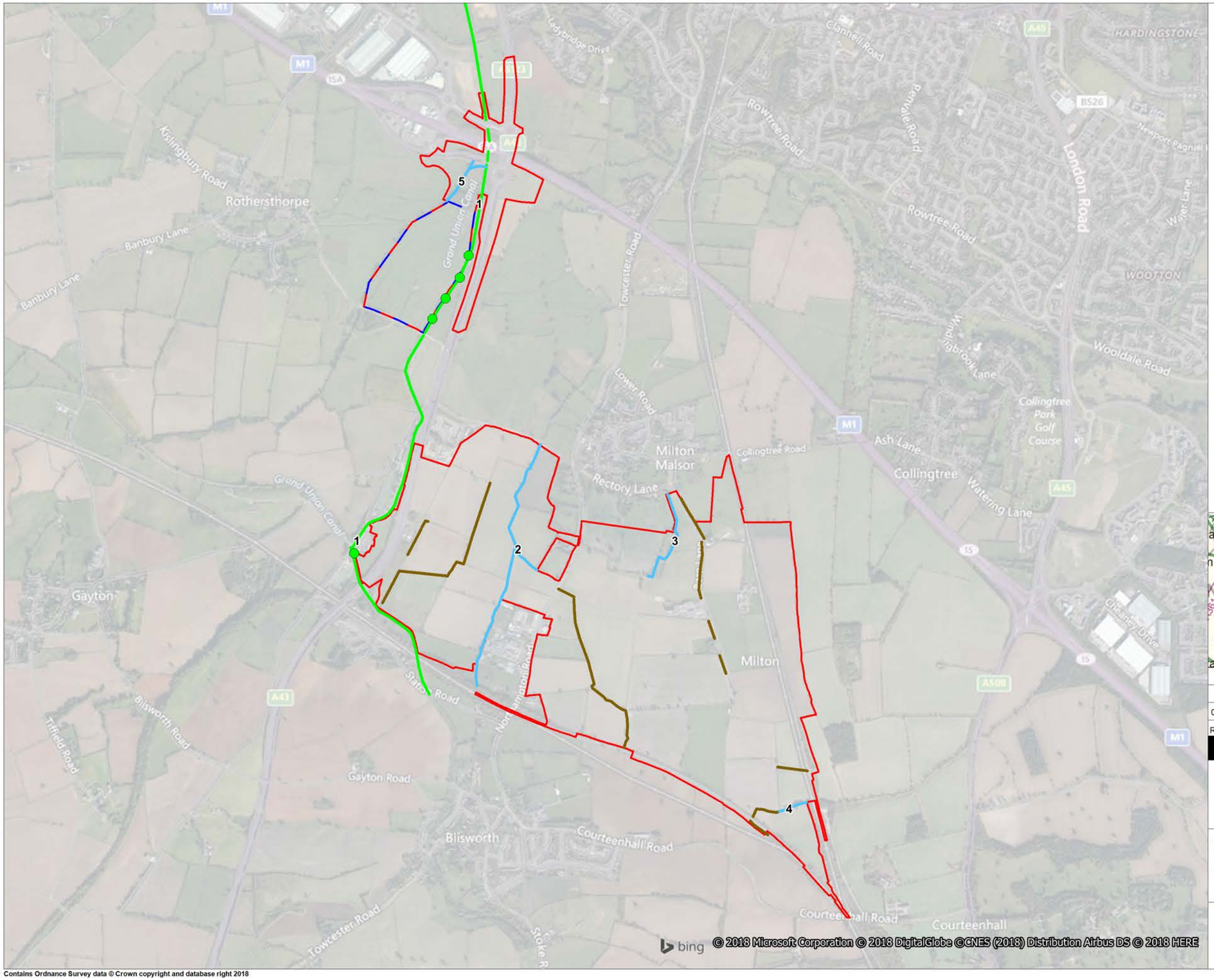

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Rail Central

RSK

Figure G3.1

Otter and Water Vole Survey Results

0 600
metres
Scale = 1:20,000 @ A3

N W E S

REV 00

File Name : U:\Ecology\855000s\855950 - Armtrack (Rail Central)

Photo 1

Photo 2

Photo 3

Photo 1 Watercourse 1 (Canal)
Photo 2 Watercourse 2
Photo 3 Watercourse 3

Rev	Date	Description	Drn	Chk	App
00	13.07.17	855950	SP	RG	JS

Rail Central

RSK

Plate G1.1

Otter and Water Vole Survey
Photos 1-3

Not to Scale

REV 00

File Name : T:\Projects\Projects 855941 - 855960\855950 - Armtrack (Rail Central)\07 GIS