

**BATH URBAN EXTENSION. LOCATION OPTION 1 - WEST OF
TWERTON**

SITE NAME: **BATH URBAN EXTENSION. LOCATION OPTION 1**
LOCATION: **WEST OF TWERTON**
GRID REFERENCE: ST711650 (CGR)
SURVEY DATE: 15/04/2008
WEATHER: SUNNY AND FAIR

THIS REPORT CONTAINS CONFIDENTIAL INFORMATION

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1 INTRODUCTION

The Bristol Regional Environmental Records Centre (BRERC) was commissioned by Bath and North East Somerset Council to conduct an extended Phase 1 field survey of **Bath Urban Extension. Location Option 1** - West of Twerton. Two members of BRERC staff visited the site on 15/04/2008. The survey and this report reflect the level of detail required to fulfil the survey brief.

The objective of the survey was to undertake a general ecological evaluation of the site and to verify and update the nature conservation data of the target site using **Phase 1 habitat mapping (Figure 1)** with additional **detailed Target Notes (Figure 2)** and to evaluate the condition, extent and structure of **hedgerows (Figure 3)** of the area in order to:

- confirm and update the existing baseline information
- identify any potential constraints to development, including the presence of European Protected Species, UK Priority Habitat and important hedgerows
- to identify key ecological features that could merit retention within strategic development areas
- Identify the nature and extent of further detailed surveys that would be required to inform future master planning of selected areas.

Appendix 1. Target Notes

Appendix 2. Phase 1 codes

Figure 1. Phase 1 Map

Figure 2. Target Notes

Figure 3. Hedgerow Condition

Figure 4. Designated Sites

Figure 5. Recommended Retention Features

Figure 6. Aerial Photo

2 SURVEY

Species in **bold** are notable in the BRERC region.
Other notable features are also in **Bold**.

Methods:

- Phase 1 habitat mapping following the Handbook for Phase 1 habitat survey (JNCC).
- Detailed target notes of key ecological features and areas that could require further detailed surveys and that could merit retention within any potential development (Handbook for Phase 1 habitat survey JNCC).
- Hedgerow characteristics*.
- Identification of areas and features

Notes

*Hedgerows were audited for all woody species and associated features such as banks, ditches and associated trees.

2.1 Habitat Overview

Within the target area the following habitat types were found:

Arable fields

Improved grassland

Woodland semi-natural Broad-leaved (possibly UK Priority Habitat)

Woodland mixed semi-natural Broad-leaved (possibly UK Priority Habitat)

Woodland broad-leaved planted

Amenity grassland

Semi-improved calcareous grassland

Semi-improved neutral grassland

Parkland / scattered trees

Scattered scrub

Dense scrub

Hedgerows

Isolated hedgerow and field trees of significant interest

Green lanes

Brook and associated riparian habitat

2.2 Habitat Description – Summary of survey.

The land within the target area is described as two units divided by Newton Brook.

There are **four designated sites** within, or directly adjacent to the Option area (**Figure 4**). These are **Carrs Wood SNCI**, **Carrs Wood LNR** and **Newton Brook SNCI**. **Newton St Loe SSSI** is outside of the boundary.

Land to the west of Newton Brook

The majority of the land to the west of Newton Brook is composed of arable fields. Several of the fields have wide arable field margins but the majority are narrow. There are two areas of woodland. The hedgerows, woodland, significant trees and the green lanes within this area contain most of the biological diversity, providing habitat for mammals, birds, plants and invertebrates. As may be expected there are birds present associated with arable landscapes such as **Skylarks *Alauda arvensis***, **Yellowhammers *Emberiza citrinella*** and **Meadow Pipits *Anthus pratensis***.

Throughout this area signs of mammal activity such as burrows, tracks and diggings are fairly frequent in the boundary features. The majority of these appear to be rabbit burrows. One **Badger sett** was found at the NW corner of Seven Acre Wood (Target Note 006). This did not appear to have been used recently. Another **sett** in a hedgerow (Target Note 020) appeared to be an active sett.

Approximately central to this area of arable land is **Seven Acre Wood**. This is **mixed semi-natural Broad-leaved Woodland** with many young trees of a variety of species including Wild Cherry *Prunus avium*, Ash *Fraxinus excelsior* and conifers. There are occasional old Pedunculate Oaks *Quercus robur*, which pre-exist any recent planting. Much of the woodland contains dense scrub which made searching difficult. The ground flora varies from Ivy carpets *Hedera helix* to more diverse areas with a native violet species *Viola* sp., Wood Sedge *Carex sylvatica*, Dog's Mercury *Mercurialis perennis*, Lords-and-ladies *Arum maculatum* and Lesser Celandine *Ranunculus ficaria*. There are tracks and other signs (diggings and foot prints) that mammals use the woodland. **Further survey** is needed to ascertain full quality of the woodland and any presence of Badgers. It is possible that the woodland will meet the standards of the **UK Priority Habitat Lowland Mixed Deciduous Woodland**.

Adjacent to the caravan site next to the brook (**Figure 6.**) is a large area of recently planted Broadleaved woodland (Target Note 009). This appears to be a very recently planted area with many blocks of species – Sycamore *Acer pseudoplatanus*, a Lime species *Tilia* sp. (probably Small-leaved Lime), Ash and others. The ground flora is composed of ruderals and grasses.

The caravan site contains a mix of semi-improved neutral grassland, some dense scrub with variously scattered trees (mostly young). Amenity grassland is the predominant habitat adjacent to the pitches and central areas.

Toward the west of this area there are several **significant trees** (Target Notes 001, 002, 003 & 007) either in hedgerows or isolated in fields. Due to the advanced life-stage of these trees they have the potential to provide habitat and/or resources for bat species or birds. During the survey a **Sparrowhawk** was seen to use one of these trees as a perch.

Land to the east of Newton Brook

To the east of Newton Brook almost all the non amenity land falls within designated areas. **Carrs Wood Local Nature Reserve and SNCI** is mostly of a high conservation value. The woodland along the break of slope (Target Note 014) is very likely to be of **UK Priority Habitat Lowland Beech Wood quality**. A **Badger sett** was found further to the south in woodland (Target Note 021).

Newton Brook runs south-north through the eastern end of this Option Area. BRERC holds records of Otter *Lutra lutra* at its confluence with the River Avon. There are aquatic plants growing where the water flows through riffles and surveyors saw a **Kingfisher** on the brook. **Further survey** will be needed to ascertain full quality of the brook, associated riparian habitat, and the possible presence of **Otters** and other protected species such as Bullheads *Cottus gobio* which also have been recorded within the Brook.

3 RECOMMENDATIONS OF IMPORTANT ECOLOGICAL FEATURES / AREAS TO RETAIN

3.1 Important ecological features identified that warrant retention and / or further survey include:

- **Carrs Wood SNCI** (Target Notes 011, 012, 013, 014, 015, 016, 017, 018 & 021).
- **Carrs Wood LNR** (Target Notes 011, 012, 013, 014, 015, 016, 017, 018 & 021).
- **Newton Brook SNCI** (Target Note 022).
- **Target Noted trees** in fields and hedgerows (Target Notes 001, 002, 003 & 007).
- **Potential bat roost** (Target Notes 001, 002, 003 and 007).
- The network of **green lanes** between the arable fields (Target Note 010).
- **Seven Acre Wood** (Target Note 006).
- **Hedgerows with seven or more woody species** qualify as “important hedgerows” under the Hedgerow Regulations 1997 (**Figure 3**).

-
- **Badger setts** and / or habitats such as hedgerow and scrub that contain (or potentially contain) (Target Notes **004**, **005**, 009, **020**, **021** & 024). *Target Notes in **Bold** denotes definite presence, non-bold denotes possible presence.*
 - **Semi-improved grassland (Carrs Wood designated sites)** (Target Notes 011, 012, 016 and 017).

Carr's Wood and Newton Brook have been designated as Sites of Nature Conservation Interest and / or Local nature Reserves and therefore merit retention within strategic development. Such areas may also warrant protection with buffer zones to reduce any potential impacts.

Seven Acre Wood is possibly of UK Priority Habitat quality and as such should warrant consideration for retention.

In addition to the Target Noted areas identified for further survey (see appendix 1), it is **recommended that all the areas listed in section 3.1 are subject to further detailed** survey if likely to be affected by development. Such areas may also warrant protection with buffer zones with to reduce any potential impacts.

APPENDICES
Appendix 1 – Target Notes
Appendix 2 - Phase 1 Codes

MAPS

- Figure 1. Phase 1 Map**
- Figure 2. Target Notes**
- Figure 3. Hedgerow Condition**
- Figure 4. Designated Sites**
- Figure 5. Recommended Feature Retention**
- Figure 6. Aerial Photo**

Appendix 1. West of Twerton Target Notes

Target Note Number	Grid Ref	Date	Site name	Habitat etc.	Notes	Further survey required
001	ST70416510	15/04/2008		Significant tree - Hedgerow	Veteran Quercus robur, deadwood, ivy, potential bird nest/bat roost. Sparrowhawk perched here	y
002	ST70516511	15/04/2008		Significant tree - Hedgerow	Quercus robur, deadwood, hollows. Potential bird nest/bat roost	y
003	ST70606524	15/04/2008		Significant tree - Arable field	Quercus robur, deadwood, few holes. Potential bird nest/bat roost	y
004	ST70416507	15/04/2008		Badger presence - Hedgerow	Badger latrine	y
005	ST70816516	15/04/2008		Badger sett - Hedgerow	Badger sett, 1 entrance, no apparent recent usage, may be outlier	y
006	ST70956517	15/04/2008	Seven Acre Wood	Mixed Woodland	Mixed BW, recent growth. Var species Prunus avium, Ash, conifers. Occ old Quercus robur, pre-existing recent planting, some dense scrub, ivy carpets, Viola sp., Carex sylvatica, Ranunculus ficaria, Mercurialis perennis, Arum mac. Mammal tracks/signs.	y
007	ST70926494	15/04/2008		Significant tree - Hedgerow	Quercus robur, deadwood, few holes. Potential bird nest/bat roost	y
008	ST71206484	15/04/2008		LBAP Species	Skylarks singing over fields - possibly nesting	n
009	ST71446512	15/04/2008		Broadleaved Woodland	Recently planted Broadleaved woodland, some blocks of species - Acer pseudoplatanus, Tilia sp., Fraxinus excelsior and more. Ground flora - poor-ruderals and grasses. Potential for Badger presence	y
010	ST71316524	15/04/2008		Green lane	Lush verge vegetation of common species (Anthriscus sylvestris, Geranium robertianum, Urtica dioica, also Geranium lucidum. Many insects - butterflies, bumblebees etc..	n
011	ST71746533	15/04/2008	Carrs Wood LNR	Semi-improved grassland	Poor semi-improved calcareous grassland. Species include Carex flacca, Plantago media, Sanguisorba minor, Lotus corniculatus, Cirsium eriophorum(?), Unable to survey section within boundary.	n

012	ST71826510	15/04/2008	Carrs Wood LNR	Semi-improved grassland	Semi-improved neutral grassland. Rough & tussocky, dominant species - <i>Dactylis glomerata</i> , <i>Festuca rubra</i> , <i>Alopecurus pratensis</i> , <i>Arrhenatherum elatius</i> , <i>Holcus lanatus</i> , <i>Ranunculus repens</i> .	n
013	ST71966508	15/04/2008	Carrs Wood LNR	Broadleaved Woodland	Semi-natural broadleaved woodland. Mix of trees, <i>Hyacinthoides non-scripta</i> , <i>Ranunculus ficaria</i> .	n
014	ST71656498	15/04/2008	Carrs Wood LNR	Broadleaved Woodland poss UK BAP	Semi-natural BW high conservation value (BAP?). Dom by Beech with Sycamore and others. Understorey dom by Hawthorn. Ground flora Dog's Mercury, <i>Ranunculus auricomus</i> , <i>Brachypodium sylvaticum</i> , <i>Viola riviniana</i> , <i>Allium ursinum</i> , Bluebell, Bramble and <i>Carex</i> sp.	y
015	ST71686528	15/04/2008	Carrs Wood LNR	Scattered scrub	<i>Rubus</i> sp., <i>Crataegus monogyna</i> and <i>Acer pseudoplatanus</i>	n
016	ST71586515	15/04/2008	Carrs Wood LNR	Semi-improved grassland	Semi-improved neutral grassland. This relates to all rough grassland on slopes east of the brook. Rough & tussocky, dom species - <i>Dactylis glomerata</i> , <i>Alopecurus pratensis</i> , <i>Arrhenatherum elatius</i> , <i>Holcus lanatus</i> , <i>Ranunculus ficaria</i> . Anthills, vole runs	y
017	ST71646474	15/04/2008	Carrs Wood LNR	Semi-improved grassland	Poor semi-improved calcareous grassland. Steep slope, lightly terraced, some bare earth. Species include <i>Carex flacca</i> , <i>Lathyrus pratensis</i> , <i>Hypochoeris radicata</i> . Anthills	n
018	ST71456457	15/04/2008	Carrs Wood LNR	Broadleaved Woodland	Dominated by <i>Fraxinus excelsior</i> . Understorey of <i>Corylus avellana</i> , <i>Crataegus monogyna</i> . Ground flora <i>Allium ursinum</i> , <i>Mercurialis perennis</i> & <i>Hedera helix</i> . Badger "snuffle" holes within the woodland - see target note 021	y
019	ST71166466	15/04/2008		LBAP Species - Arable field	Broad arable margins. Skylarks on ground in cultivated field.	y
020	ST71346463	15/04/2008		Badger sett - Hedgerow	Badger sett in hedgerow - several holes	y
021	ST71476455	15/04/2008	Carrs Wood LNR	Badger sett - Woodland	Badger sett - poss outlier with associated "snuffle" holes	y

022	ST71566497	15/04/2008	Newton Brook	Running Water	Running water (stream) with associated marginal habitats and semi-improved neutral grassland	y
023	ST71396472	15/04/2008		Mixed habitats	Dense & Scattered scrub, trees and grassland. Further survey needed due to proximity of Badger sett (see TN 020)	y
024	ST71536447	15/04/2008		Badger presence	Possible presence of Badgers. Further survey needed due to proximity of Badger sett (see TN021)	Y

Appendix 2. Phase 1 Codes

Code	Habitat classification	Code	Habitat classification	Code	Habitat classification
A	Cultivated/disturbed land, arable	F	Fence	RWD	Running water, dystrophic
AC	Natural inland cliff, acid / neutral	FB	Recently felled woodland: broad-leaved	RWE	Running water, eutrophic
ADH	Dry dwarf shrub heath, acid	FC	Recently felled woodland: coniferous	RWM	Running water, mesotrophic
AF	Acid / neutral flush / spring	FM	Recently felled woodland: mixed	RWO	Running water, oligotrophic
AG	Acid grassland unimproved	FPM	Flood plain fen	S	Artificial spoil
AM	Cultivated/disturbed land, amenity grassland	Ga	Intertidal green algal beds	SAG	Acid grassland semi-improved
AR	Other rock exposure, acid / neutral	H	Hedge, intact, native species poor	SB	Bracken scattered
AS	Natural scree, acid / neutral	H-	Defunct hedge, native species poor	SBW	Parkland / scattered trees, broad-leaved
B	Water, brackish (includes saline lagoons)	HC	Maritime hard cliff	SC	Maritime soft cliff
Ba	Intertidal brown algal beds	HT	Hedge and trees, native species poor	SCG	Calcareous grassland semi improved
BB	Blanket bog	I	Improved grassland	SCW	Parkland scattered trees: coniferous
BC	Natural inland cliff, basic	LH	Lichen / bryophyte heath	SD	Swamp, single species dominant
BDH	Dry dwarf shrub heath, basic	LP	Limestone pavement	SG+target note	Maritime coastal grassland
BF	Basic flush / spring	M	Water, mesotrophic	SH+target note	Maritime coastal heathland
BG	Bare ground	MG	Marsh / marshy grassland	shaded black	Built up area - buildings
BM	Basin mire	MH	Montane heath / dwarf herb	SI	Poor semi improved grassland
BP	Broadleaved parkland / scattered trees	MI	Artificial mire	SMG	Semi natural marshy grassland
BR	Other rock exposure, basic	MP	Mixed plantation	SMW	Parkland scattered trees: mixed
BS	Natural scree, basic	MV	Marginal / inundation, marginal	SNG	Neutral grassland semi improved
BW	Broadleaved woodland	MW	Mixed semi-natural	SP	Swamp
C	Water, marl / tufa	NG	Neutral grassland unimproved	SS	Scrub scattered
CA	Cave	NR	Other herb & fern, non-ruderal	SSM	Saltmarsh scattered plants
CB	Bracken, continuous	O	Water, oligotrophic	SW	Standing water
CG	Calcareous grassland unimproved	OD	Sand-dune, open dune	SWALL	Built up area - sea wall
CP	Parkland/scattered trees, coniferous	P	Bare peat	SWB	Standing water, brackish
CS	Built up area - caravan site	PBW	Broadleaved plantation	SWC	Standing water, marl
CW	Coniferous, semi-natural	PCW	Coniferous plantation	SWD	Standing water, dystrophic
D	Water, dystrophic	PH	Hedges intact or defunct, species poor	SWE	Standing water, eutrophic
DB	Dense bracken	PHT	Hedges with trees, species poor	SWM	Standing water, mesotrophic
DD	Dry ditch	PMW	Mixed plantation	SWO	Standing water, oligotrophic
DG	Sand-dune, dune grassland	Q	Artificial quarry	TR	Other herb & fern, tall ruderal
DGM	Dry heath / acid grassland mosaic	R	Artificial refuse-tip	TS	Tall swamp
DH	Sand-dune, dune heath	RB	Raised bog	VM	Valley mire
DS	Scrub dense / continuous	RH	Hedge, intact, native species rich	W	Wall
DSM	Saltmarsh dense / continuous	RH	Hedges intact or defunct, species rich	WB	Wet modified bog
DW	Sand-dune, dune slack	RH-	Defunct hedge, native species rich	WGM	Wet heath / acid grassland mosaic
DX	Sand-dune, dune scrub	RHT	Hedges with trees, species rich	WH	Wet dwarf shrub heath
E	Water, eutrophic	RHT	Hedge and trees, native species rich	X	Boundary removed
EB	Earth bank	RWB	Running water, brackish	Zo	Intertidal <i>Zostera</i> beds
ESP	Cultivated / disturbed land, ephemeral / short	RWC	Running water, marl		

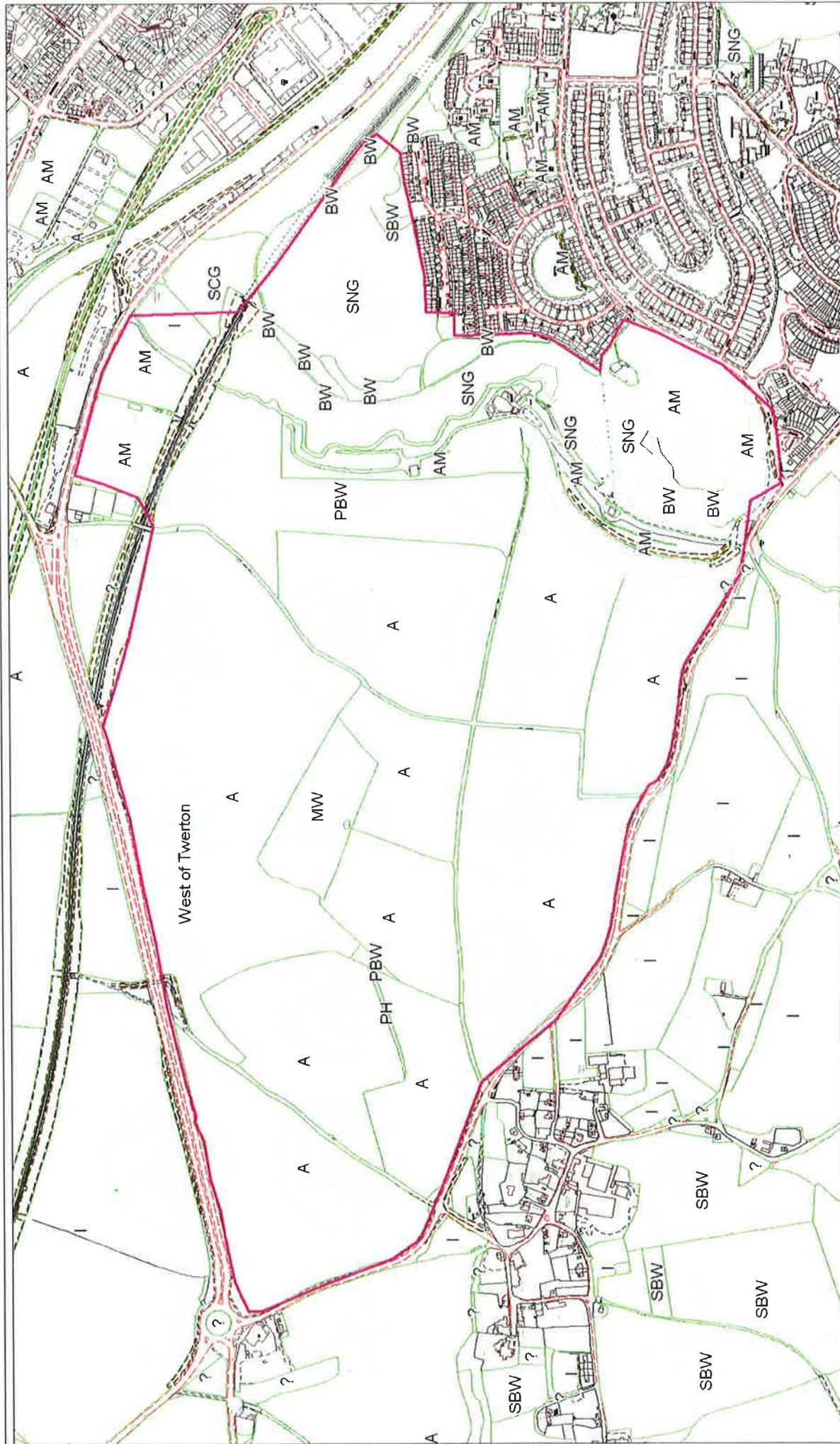
Bath Urban Extension. Location Option 1 - West of Twerton

Figure 1. Phase 1 Map

Compiled by BRERC on 12/05/2008

Scale 1 : 8,159

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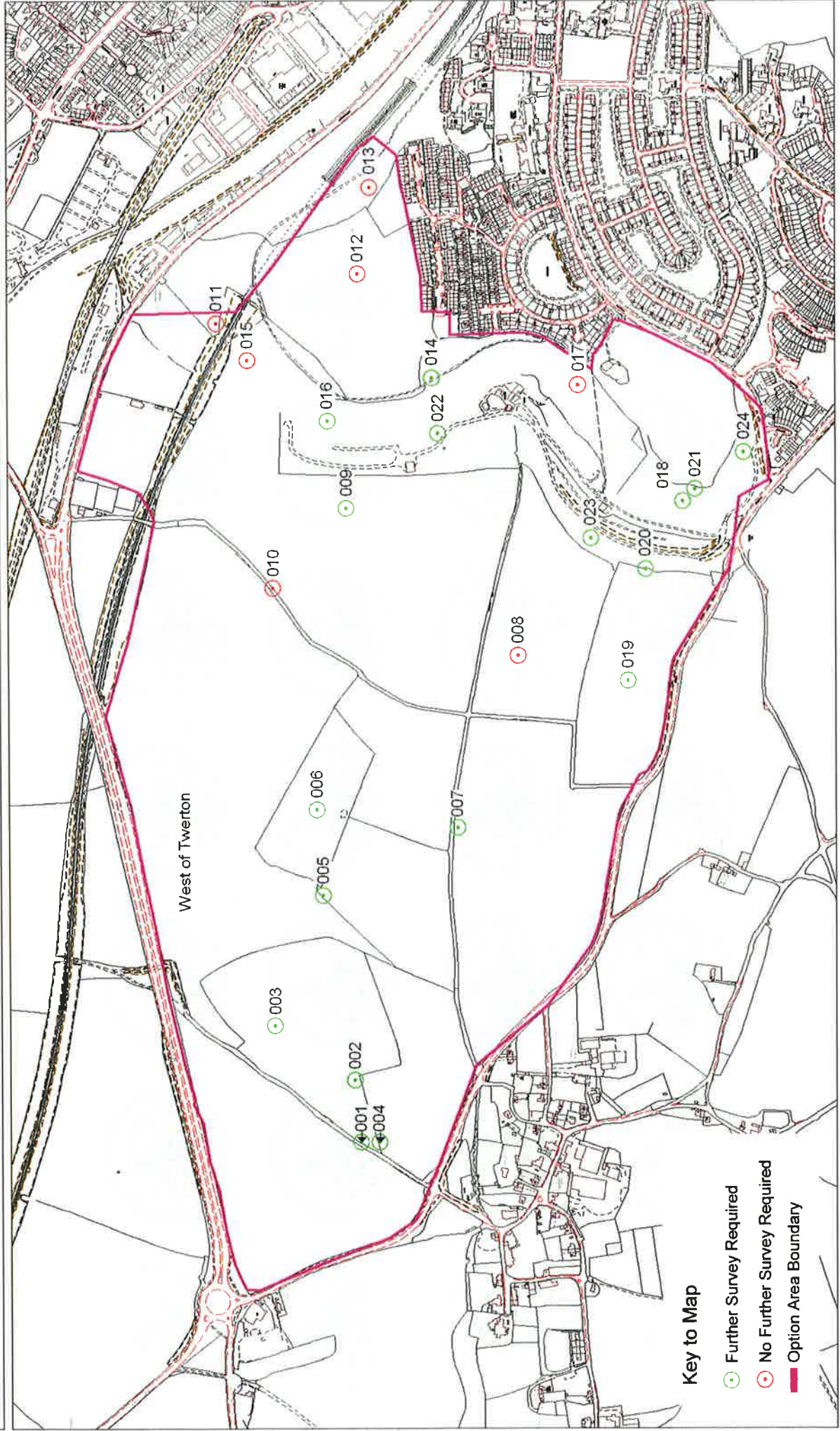
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Figure 2. Target Notes

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Key to Map

- Further Survey Required
- No Further Survey Required
- Option Area Boundary

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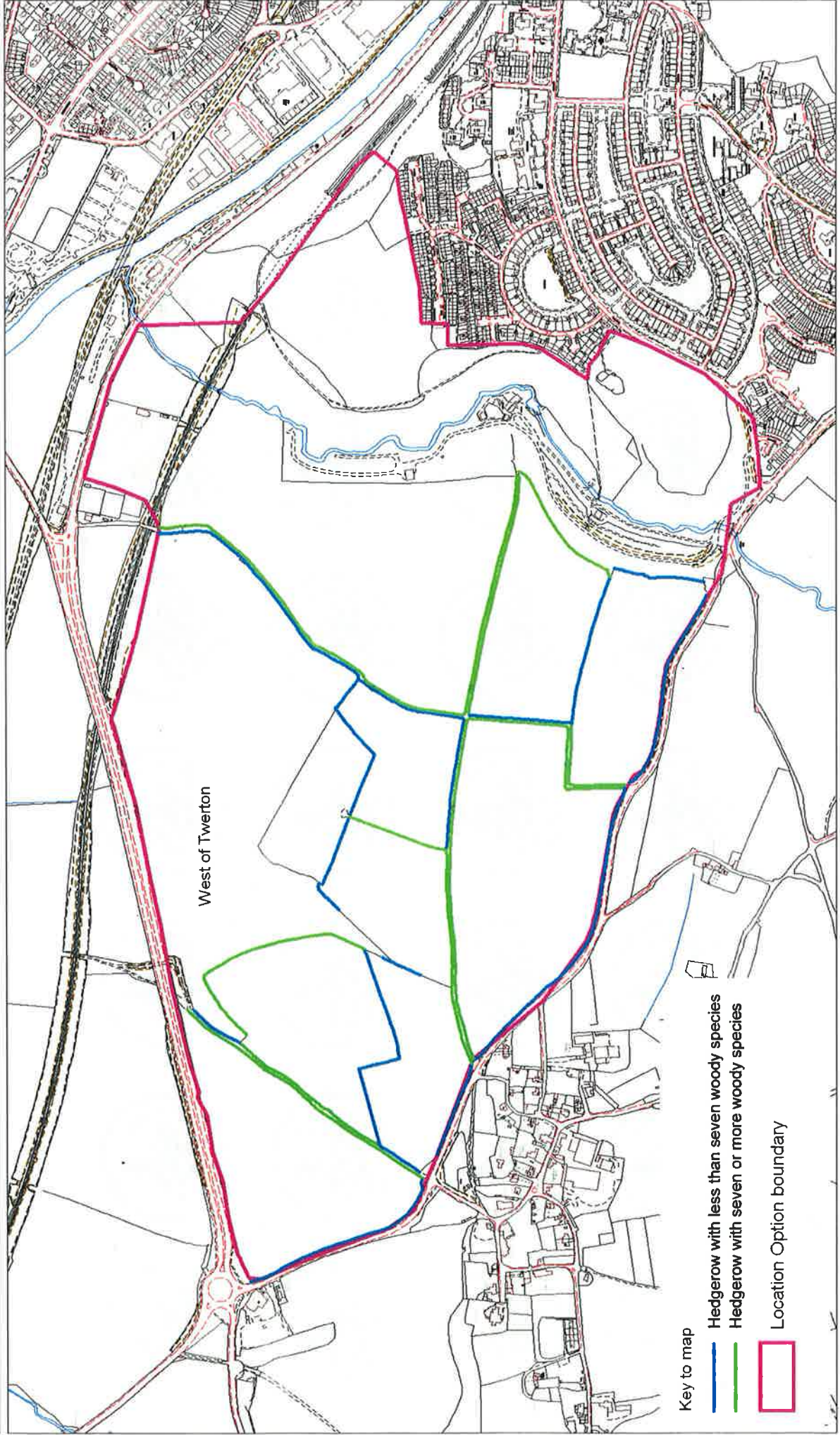
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Figure 3. Hedgerow Condition

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- Key to map
- Hedgerow with less than seven woody species
 - Hedgerow with seven or more woody species
 - Location Option boundary

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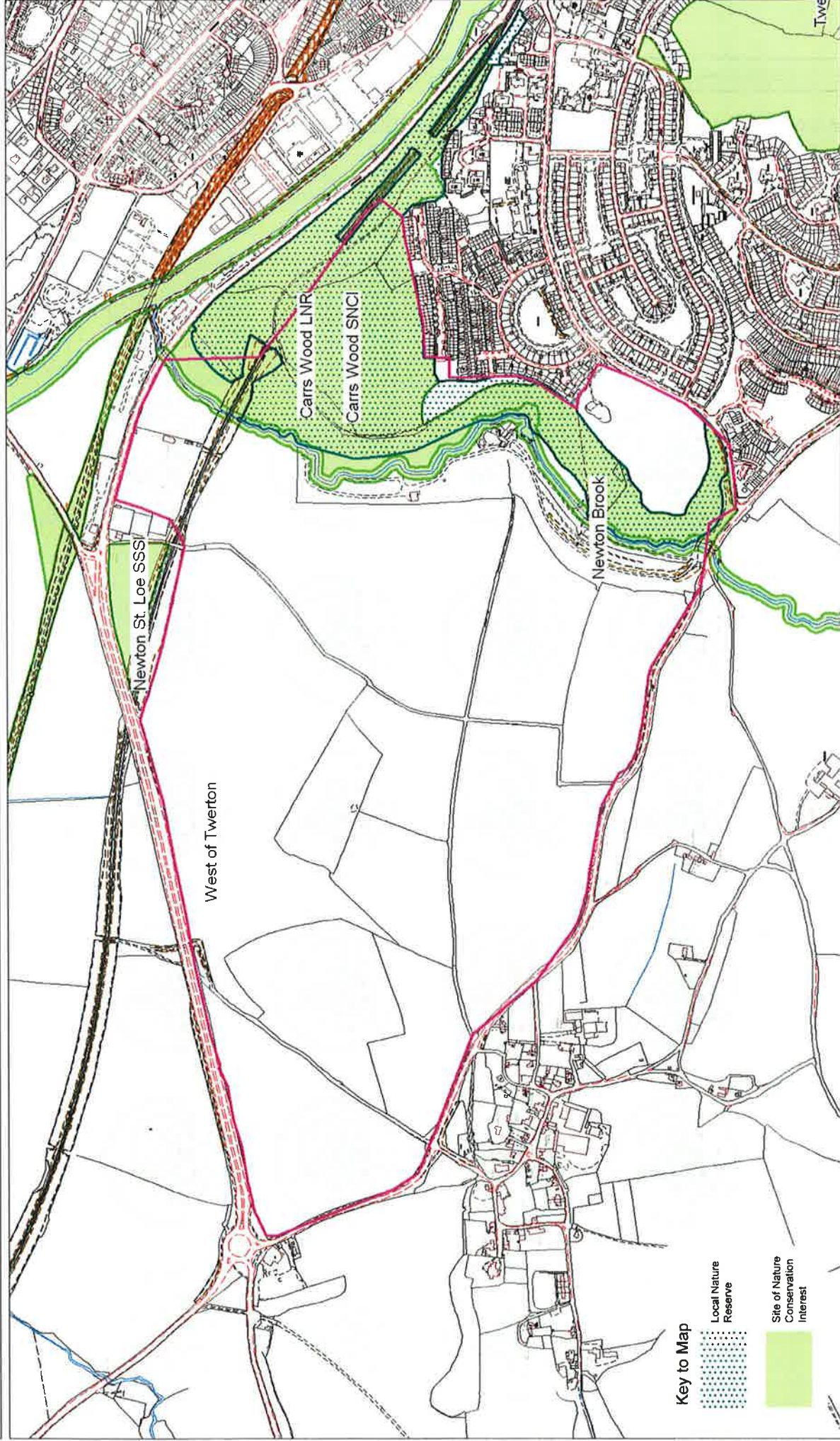
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Figure 4. Designated Sites

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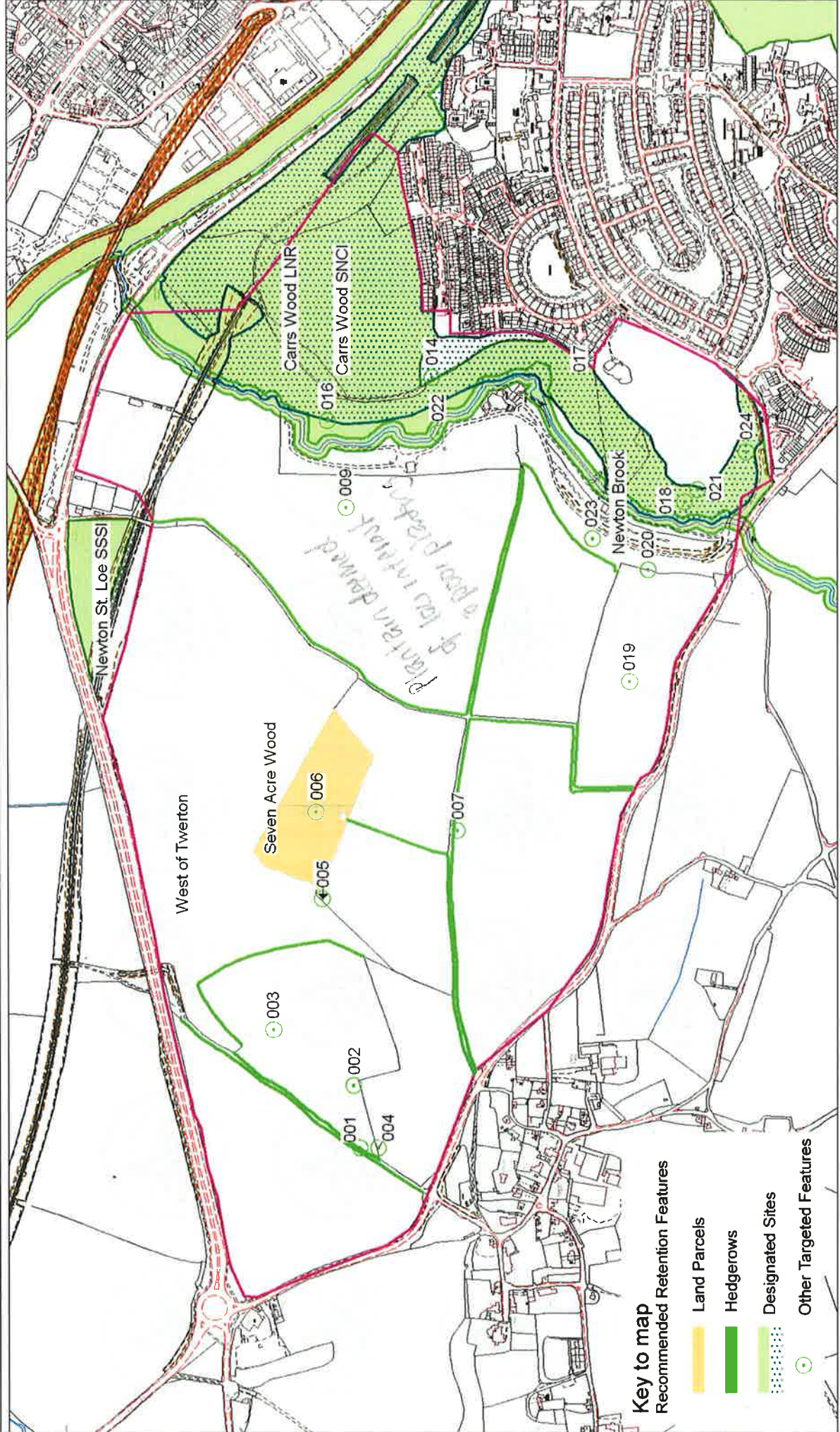
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Figure 5. Recommended Feature Retention

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Bath Urban Extension. Location Option 1 - West of Twerton

Figure 6. Aerial Photo

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