

Proof of Evidence – Ecology and Arboriculture Drawings and Appendices

Francis Hesketh BSc(Hons) MCIEEM CEnv CMLI MICFor

Brislington Meadows, Bristol
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TEP
Genesis Centre
Birchwood Science Park
Warrington
WA3 7BH

Tel: 01925 844004
Email: tep@tep.uk.com

Offices in Warrington, Market Harborough, Gateshead, London and Cornwall

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Prepared by:	The Environment Partnership Ltd
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The conclusions and recommendations contained in this document are based upon information gathered by TEP and provided by third parties. Information provided by third parties and referred to herein has not been independently verified by TEP, unless otherwise expressly stated in the document.

Nothing in this report constitutes legal opinion. If legal opinion is required, the advice of a qualified legal professional should be secured.

Drawings and Appendices

Drawings

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DRAWINGS

Drawing 1

Consolidated Arboricultural Impact Assessment



KEY
(This drawing must be reproduced in colour)

- Trees, Groups and Woodlands
- Site Boundary
- Approximate location
(Feature not shown on supplied topographical survey)
- Tree Preservation Order
(Ref: TPO1404 Land at Broom Hill (Brislington Meadows))

Trees to be retained

- Tree cover to be retained
- Veteran tree buffer zone

Proposed tree works

- Trees to be removed
- Trees to be pruned
- Trees in conflict with Masterplan

Trees that would be removed if development were to proceed in accordance with the Illustrative Masterplan. Scope exists for changes to be made at Reserved Matters.

TPO Reference Numbers

TEP Ref T3 - TPO Ref T2
TEP Ref T4 - TPO Ref T3
TEP Ref T5 - TPO Ref T4
TEP Ref T6 - TPO Ref T5
TEP Ref T9 - TPO Ref T10
TEP Ref T18 - TPO Ref T16
TEP Ref T19 - TPO Ref T11
TEP Ref T20 - TPO Ref T12
TEP Ref T21 - TPO Ref T13
TEP Ref T23 - TPO Ref T14
TEP Ref T25 - TPO Ref T7
TEP Ref T26 - TPO Ref T8
TEP Ref T27 - TPO Ref T9
TEP Ref G7 (Part) - TPO Ref T1
TEP Ref G14/G15 - TPO Ref G2
TEP Ref G19 (Part) - TPO Ref T6
TEP Ref G27 - TPO Ref G3
TEP Ref W1 - TPO Ref W1/G1
TEP Ref W2 (Part) - TPO Ref T15

A	Updated TPO Text	AAB	FH	09.01.23
Rev	Description	Drawn	Approved	Date

THE ENVIRONMENT PARTNERSHIP

Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project
Brislington Meadows, Bristol

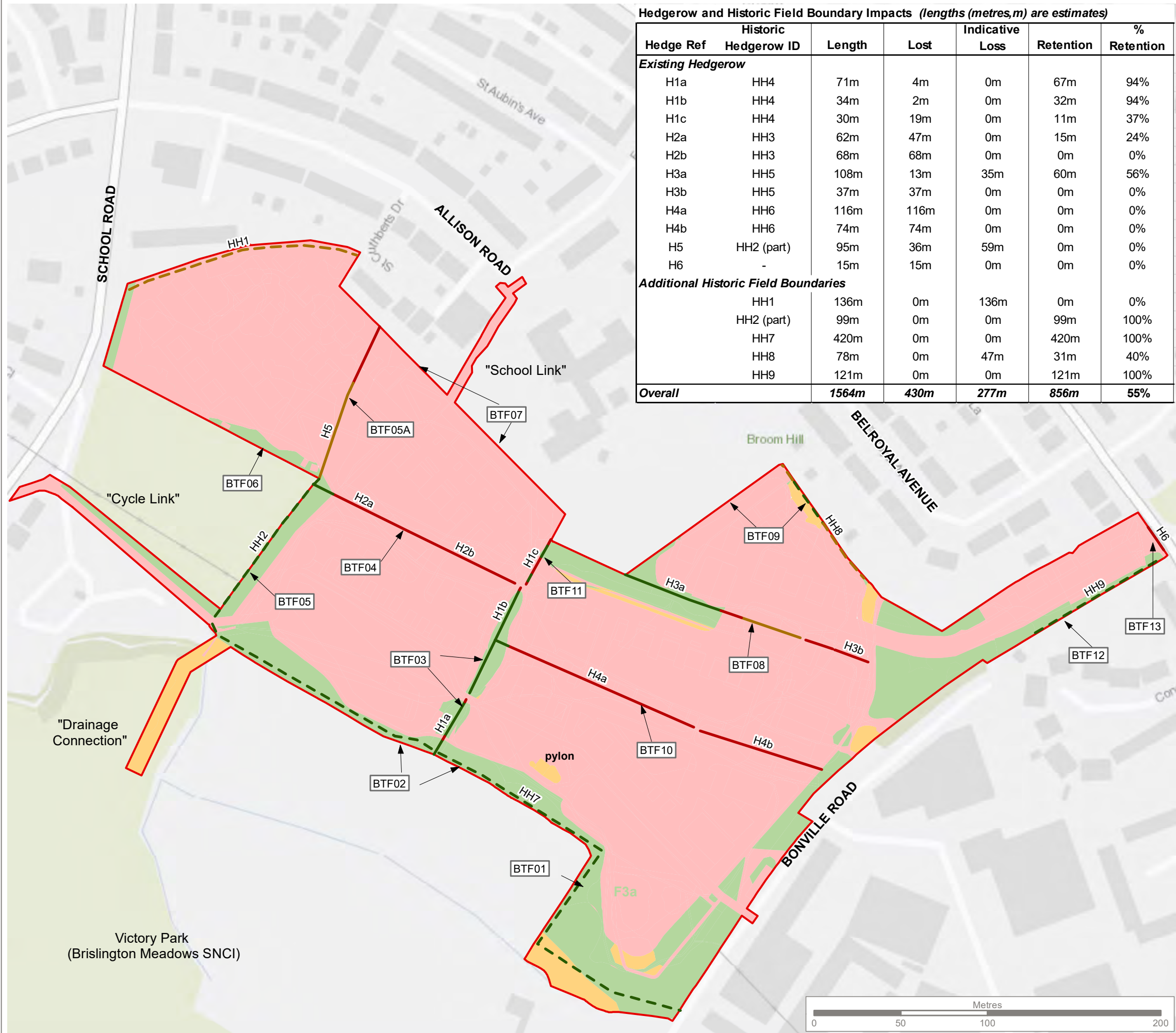
Title
Tree Removal and Retention Overview

Drawing Number
D7507.43.001

Scale 1:1000 @ A1	Date 09/12/2022
Drawn AAB	Checked FH
	Approved FH

Drawing 2

Hedgerow Impact Plan



KEY

Site boundary

Predicted Habitat Impacts

Area Habitats

- Temporary & Permanent Loss - 7.8ha (81%)
- Habitats retained - 0.28ha (3%)
- Retained habitats enhanced - 1.53ha (16%)

Existing Hedgerows

- Lost (loss presumed unavoidable)
- Indicative loss (loss presumed, but detailed design and construction measures may provide opportunities for retention)
- Retained

Additional Historic Field Boundaries (TEP Dwg Ref G7507.43.002)

- Indicative loss (loss presumed, but detailed design and construction measures may provide opportunities for retention)
- Retained

BTF## Bristol Tree Forum boundary reference numbers

Note:
The locations of habitats and habitat features are indicative. Based on drawing 7456_017ZA Capacity Study Ecology Markup received from the client. Individual tree retention is not identified on this plan - refer to Outline Arboricultural Impact Assessment (TEP Ref 7507.21.001) and Landscape Parameter Plan (LDA no. 7456_102_PL1)

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Site Map

1:20,000

E	Add HH9 and BTF boundary reference numbers	RAR	FBH	19/12/2022
F	Correction total measure retained	RAR	FBH	4/1/2023
Rev	Description	Drawn	Approved	Date

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Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project
Brislington Meadows

Title
Proposed Development - Predicted Temporary and Permanent Habitat Loss

Drawing Number
G7507.43.001

Drawn	Checked	Approved	Scale	Date
RAR	CB	FBH	1:2,250 @ A3	05/12/2022

APPENDICES

Appendix A

Summary of Ecological and Arboricultural Surveys

Table A.1 summarises the scope, method and timing of desk and field based surveys completed to inform the ecological and arboricultural assessments. Updates to the baseline completed in November 2022 to January 2023 are summarised in [blue](#) text.

Table A. 1: Summary of baseline ecology and tree surveys 2019 - 2023

Survey and Report Source	Scope
Desk Study ^[1]	<p>Review of relevant legislation and policy;</p> <p>Review of Pre-Planning Application Ref 19/05220/PREAPP response and subsequent engagement with the Council's Nature Conservation Officer (August 2020);</p> <p>Identification of internationally important sites within 10km, nationally important sites within 5km, regionally important sites within 2km, habitat networks up to 2km, locally important habitats within 1km;</p> <p>Review of previously granted European Protected Species (EPS) licences within 2km (www.magic.gov.uk);</p> <p>Review of Natural England great crested survey licence return results within 2km (www.magic.gov.uk);</p> <p>Review of data provided by Bristol Region Environmental Records Centre (BRERC) for a 2km search radius for terrestrial species records and local wildlife designations; and</p> <p>Updated data request in 2022 to BRERC applying a 2km radius search (from application boundary) for terrestrial species records, notable habitats and local wildlife designations.</p>
Habitats and Flora Target Notes ^[2] Hedgerow Assessment ^[3] Grassland Assessment ^[4] Habitat Condition Assessment ^[5]	<p>Review of 2019 PEA report and compilation of findings from WSP surveys completed at the site (extended Phase 1 habitat survey - September 2019 and grassland and hedgerow botanical survey - June 2020);</p> <p>UKHab habitat survey and habitat condition assessment applying Natural England's Biodiversity Metric guidance (initially Metric 2, updated to Metric 3) - July 2020, updated throughout other site visits during 2020 to January 2022;</p> <p>Hedgerow Regulations Assessment (wildlife criteria) - May 2021;</p> <p>Grassland National Vegetation Classification (NVC) survey – July 2021; and</p> <p>Updated site walkovers in November 2022 and January 2023.</p>

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- 1 CD1.21a: Ecological Technical Appendix A Ecological Desk Study (TEP Ref 7507.20.063v2.0)
- 2 CD1.21b: Ecological Technical Appendix B Target Notes (TEP Ref 7507.20.063v2.0)
- 3 CD1.21c: Ecological Technical Appendix C Hedgerow Assessment (TEP Ref 7507.20.063v2.0)
- 4 CD1.21d: Ecological Technical Appendix D Grassland Assessment (TEP Ref 7507.20.059v2.0)
- 5 CD1.21e: Ecological Technical Appendix E Habitat Condition Assessment (TEP Ref 7507.20.011v2.0)

Survey and Report Source	Scope
Reptiles^[6]	<p>Review of 2019 PEA report (WSP);</p> <p>Review of pre-existing records provided by BRERC;</p> <p>Habitat suitability assessment July 2020 refreshed July 2021;</p> <p>Presence/absence transect survey comprising direct observation, searches of existing natural refuge features and employing 75 artificial cover objects (ACOs) comprising a mix of corrugated bitumen and roofing felt tiles. Seven survey visits following 'bedding-in' period to inspect mats and determine presence, distribution and abundance of reptiles across the site (August to early October 2020);</p> <p>Incidental observations recorded during other site visits.</p>
Breeding birds^[7]	<p>Review of pre-existing records provided by BRERC;</p> <p>Breeding bird survey completed by WSP comprising three visits in April, May and June 2020 to record and map all visual, acoustic and behavioural observations of birds within the site and immediate environs;</p> <p>Incidental observations recorded during other site visits.</p>
Invertebrates^[8]	<p>Review of pre-existing records provided by BRERC;</p> <p>Three survey visits May, July and August 2021 to compile species assemblage and distribution of any notable species within the site. Techniques employed a range of visual observation and sampling methods, appropriate to target species groups/habitat, including hand searching and hand netting, pitfall and water traps and night time moth trapping.</p>
Badgers^[9]	<p>Review of 2019 PEA report (WSP);</p> <p>Review of pre-existing records provided by BRERC;</p> <p>Site-wide walkover survey (July 2020) to verify and update 2019 PEA site-wide walkover, cataloguing evidence of badger setts and any other field evidence indicative of badgers;</p> <p>Monitoring of (disused) sett using trail camera (autumn 2020 and 2021);</p> <p>Updated site-wide walkovers spring, summer and autumn 2021; Updated site walkovers in November 2022 and January 2023; and</p> <p>Incidental observations recorded during other site visits</p>
Bats^[10]	<p>Review of 2019 PEA report (WSP);</p>

6 CD1.21f: Ecological Technical Appendix F Reptile Survey (TEP Ref 7507.20.022v2.0)

7 CD1.21g: Ecological Technical Appendix G Breeding Bird Survey (TEP Ref 7507.20.056v2.0)

8 CD1.21h: Ecological Technical Appendix H Invertebrate Survey (TEP Ref 7507.20.062v2.0)

9 CD1.21i: Ecological Technical Appendix I [*CONFIDENTIAL*] Badger Survey (TEP Ref 7507.20.041v2.0)

10 CD1.21j: Ecological Technical Appendix J Bat Surveys (TEP Ref 7507.20.021v2.0)

Survey and Report Source	Scope
	<p>Review of pre-existing records provided by BRERC;</p> <p>Monthly transects WSP May and June 2020 and TEP July to October 2020;</p> <p>Monthly static monitoring WSP May and June 2020 and TEP July to October 2020;</p> <p>Ground-based preliminary roost appraisal (PRA) of trees September 2020, refreshed during 2021 up to and including January 2022;</p> <p>Potential roost feature (PRF) inspection, including aerial access of trees to verify presence of PRF and identify the presence of bats or residual evidence of bats October 2020;</p> <p>DNA analysis of potential bat dropping sample collected; and</p> <p>Updated ground-based assessment of trees in November 2022^[11] with further ground-based and PRF assessment of trees accessed in January 2023.</p>
Outline Biodiversity Net Gain Assessment^[12]	<p>Review of Phase 1 habitat survey presented in 2019 PEA (WSP);</p> <p>Habitat Condition Assessment in October 2020 following Biodiversity Metric 2 guidance;</p> <p>Consultation with the Council in November 2019 to confirm BNG baseline apply Biodiversity Metric 2 – including presentation of draft Phase 1 habitat map, UK Habitat Classification map and Habitat Condition plan and a print out of the completed Site Habitat Baseline calculation tables extracted from Biodiversity Metric 2 (A-1);</p> <p>Updated Habitat Condition Assessment in following Biodiversity Metric 3 guidance, following multiple site visits up to January 2022^[5];</p> <p>Completion of Outline Biodiversity Metric 3 calculator^[13] (multiple iterations during course of site design leading to design freeze); and</p> <p>Updated BNG calculations in November 2022 to apply full SNCI coverage within the allocation area^[14].</p>
Tree survey^[15]	<p>Tree survey in July and August 2020 by means of inspection from ground level by a qualified Arboricultural Consultant in accordance with BS5837:2012 Trees in relation to design, demolition and construction – Recommendations;</p>

11 Refer to Appendix B

12 CD1.22: Outline BNG Assessment Report (TEP ref 7507.20.070v4.0)

13 CD2.1: Outline Biodiversity Net Gain Metric 3.0 calculator (TEP Ref 7507.20.068)

14 Refer to Appendix C

15 CD1.19: Arboricultural Impact Assessment Report (TEP Ref 7507.21.001)

Survey and Report Source	Scope
	<p>Presentation of the Tree Survey to the Council's Tree Officer at a site meeting in October 2020;</p> <p>Survey to calculate BTRS requirements in September 2022;</p> <p>Updated survey of hedgerow trees in December 2022;</p> <p>Survey in January 2023 to assess alleged presence of veteran hawthorns.</p>

Table A.2 confirms those species scoped out of the ecological baseline.

Table A.2: Species scoped out of the baseline surveys

Survey	Reason for Scoping Out
Hazel dormouse	Lack of records and optimal habitats. 2019 PEA scoped out this species and the pre-application consultation response does not counter this approach.
Great crested newts	Lack of records and suitable breeding habitats. Great crested newts are therefore concluded absent and are scoped out from further assessment, but other amphibians (terrestrial only) remain scoped in.
Otter and water vole	There are no suitable habitats within or near the site that would support or provide supplementary habitat function for otters.

Appendix B

Ecological Briefing Note - Updated Ecology Desktop Study and
Walkover Survey (November 2022)

Brislington Meadows

Ecology Survey Update November 2022

Project	Brislington Meadows	Author	Dr Rachel Roberts
Date	29 November 2022	Checked	Francis Hesketh
Doc Ref	7507.43.004	Approved	Francis Hesketh
Version	1.0	Purpose	Ecological desk study and site walkover 2022

1.0 Introduction

- 1.1 This briefing note presents the findings of an updated ecological desk study completed in November 2022. The purpose of the update is to identify any changes in baseline compared to that reported in the Ecological Technical Appendix A: Ecological Desk Study (ref 7507.20.039 version 2) or Outline Ecological Impact Assessment (EclA) report (ref 7507.20.066 version 6).
- 1.2 An ecological walkover was undertaken by TEP Associate Ecologist Dr Rachel Roberts CEnv MCIEEM and TEP Senior Ecologist Graham Roberts MCIEEM on 23rd November 2022. This walkover refreshed baseline data to identify any material changes in:
- habitat extent or condition compared to that reported in Ecological Technical Appendices C: Hedgerow Assessment (ref 7507.20.057 version 2), D: Grassland Assessment (ref 7507.20.059 version 2) or E: Habitat Condition Assessment (ref 7507.20.011 version 2);
 - trees with bat roost suitability compared to that reported in Ecological Technical Appendix J: Bat Surveys (ref 7507.20.021 version 2);
 - extent or nature of badger activity compared to that reported in confidential Ecological Technical Appendix I: Ecological Desk Study (ref 7507.20.041 version 2).

Limitations

- 1.3 The ecological walkover was undertaken in November 2022. This timing is optimal for ground-based assessment of trees to identify bat roost suitability and for badger activity. The timing is sub-optimal for habitat survey. However, given the objective of the walkover was to identify major changes to the previously reported baseline in terms of habitat extent or condition, the sub-optimal timing is not a constraint.

2.0 Ecological Desk Study

- 2.1 TEP updated the ecological desk study by reviewing Open Source data from Natural England and Environment Agency, via the government mapping portal at www.magic.gov.uk.

2.2 This data search identifies:

- Statutory international wildlife sites within 10km of the application site;
- Statutory national wildlife sites within 5km of the application site;
- Statutory regional/local wildlife sites within 2km of the application site;
- Notable habitats (ancient woodlands and priority habitats) within 2km of the application site;
- National Nature Recovery Network within 2km of the application site;
- European protected species (EPS) mitigation licences granted within 2km of the application site; and
- Great crested newt survey pond records (2017-2019) within 1km of the application site.

2.3 TEP also submitted a new data request to Bristol Region Ecological Records Centre (BRERC) and reviewed the Bristol City Council's Adopted Local Plan and Policy Map to refresh data relating to:

- locally designated non-statutory wildlife sites within 2km of the application site; and
- pre-existing species records within 2km of the application site.

Baseline Changes

Statutory Wildlife Sites

2.4 The updated ecological desk study highlighted no material changes to the statutory wildlife sites previously identified within 2km of the application site.

2.5 Drawing G7507.20.002 (Statutory Wildlife Sites (5km and 2km search radii)) presented within the Ecological Technical Appendix A: Ecological Desk Study identified Cleve Wood Hanham Site of Special Scientific Interest (SSSI) within with the 5km buffer from the application site. However, details of this SSSI were mistakenly omitted from Table 2 in the Ecological Desk Study report. Details for this SSSI are as follows:

Site Name	Designation & Citation Link	Location Relevant to Site	Reason for Site Designation
Cleeve Wood, Hanham	SSSI - Citation	2.5km southeast	The site contains the largest and most stable population of the uncommon Bath Asparagus <i>Ornithogalum pyrenaicum</i> . The site is in favourable condition.

2.6 There are no changes to SSSI Impact Risk Zones as reported in the Ecological Desk Study Report.

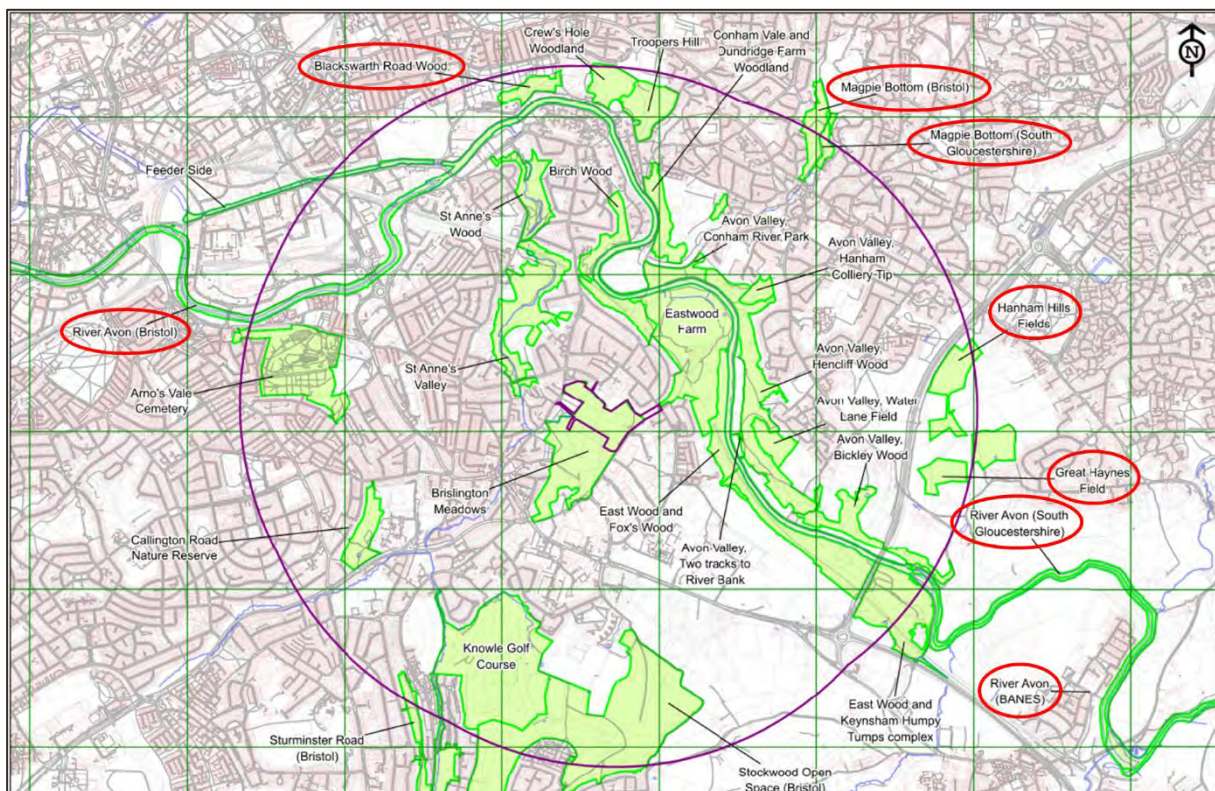
Non-Statutory Wildlife Sites

2.7 The 2019 desk study was initiated by WSP to inform a Preliminary Ecological Appraisal on behalf of Homes England. The WSP desk study included a data request to BRERC for non-statutory wildlife sites and pre-existing species records within 2km of the site. It is understood this data search applied a site centroid for the purposes of applying the 2km search radius. The WSP desk study and BRERC data return

identified the SNCIs as detailed within Table 4 (Non-Statutory Wildlife Sites) in the Ecological Desk Study Report.

- 2.8 The updated data request to BRERC in November 2022 applied a 2km search radius from the application site boundary. Data returns are presented at Annex A. The data return from BRERC identified eight ‘additional’ SNCIs within or overlapping this 2km site buffer.
- 2.9 Three of these ‘additional’ SNCIs are a consequence of the “River Avon (part of) SNCI” being split into separate component SNCIs reflecting the different Local Authorities through which the SNCI passes (Bristol, South Gloucestershire and BANES). These sites have therefore been included in the previous desk study and ecological assessment.
- 2.10 The other five ‘additional’ SNCIs identified by the updated data request to BRERC are all located peripheral to or overlapping the updated 2km buffer from the site boundary to the north, northeast and east of the application site. The identification of these sites within the 2km buffer from the application sites applied for this updated ecological desk study is attributed to the minor changes in the search buffer since the first desk studies. Figure 1 identifies the ‘additional’ SNCIs.

Figure 1: 2022 SNCI findings, applying a 2km buffer from the application boundary – additional SNCIs falling within the updated 2km buffer are circled.



Note the extent displayed for Brislington Meadows SNCI overlaps the application site and is contrary to the Adopted Local Plan Policy Map.

- 2.11 Table 1 below updates Table 4 presented in the previous ecological desk study based on the SNCI data forms received for each of the individual SNCI within 2km of the

application site as identified in Figure 1 above. Green text denotes additions and strikethrough text denotes deletions.

Table 1: Non-Statutory Wildlife Sites

Site Name and Designation	Location in Relation to Site	Primary Reason(s) for Designation (extracted from BRERC Site Information Forms (Annex C))
Arnos Vale Cemetery SNCI	1.4km west	One of few wildlife sites in an ecologically impoverished area, the Victorian cemetery has wooded slopes with neutral grassland near old neutral grassland on the southern plateau. Arnos Court Woodland, a publicly owned woodland, lies adjacent.
Bristol Wildlife Network Sites	0m (within and adjacent)	A total of 52 60 Wildlife Network Sites are present within 2km. The main focus of these sites is to buffer and link.
Avon Valley, Bickley Wood SNCI	1.1km southeast	Diverse ancient woodland on acid soils with associated ground flora and geological interest.
Avon Valley, Conham River Park (part) SNCI	0.7km northeast	Mosaic of recent secondary woodland (primarily sycamore), bramble scrub and grassland. Crosswort, small-leaved lime. Protected fauna. [Assessment data pending]
Avon Valley, Hamham Colliery Tip SNCI	0.9km northeast	Remnant acid grassland over colliery tip. Bare soil, acid grassland remnants with species including broom, early hair-grass, mat grass, heather, common toadflax, meadow vetchling, cat's-ear, wood sage, silver birch.
Avon Valley, Hencliff Wood SNCI	0.5km east	Ancient woodland, flowing open water, bankside vegetation. Flora includes small-leaved lime, wild service, sessile oak, hornbeam, great wood-rush, cow-wheat, hard fer, narrow buckler fern. Adders present.
Avon Valley, Two tracks to River Bank SNCI	0.3km east	Ancient woodland? Appears to be two lanes on each side of a poplar plantation.
Avon Valley, Water Lane Field SNCI	0.6km southeast	Neutral grassland with ancient woodland on edges. Flora includes sheep's sorrel, tansy, white campion, field wood-rush, field scabious, black knapweed, rough mallow, ox-eye daisy. Protected fauna.
Birch Wood SNCI	0.5km northeast	Linear site on steep slopes adjacent to the River Avon. Ancient semi-natural broadleaved and planted mixed woodland which may include priority deciduous woodland (criteria 3). Area of grassland and scrub.
Blackswarth Road Wood SNCI	1.9km north	Grassland, scrub, woodland and ancient semi-natural woodland that may include some Priority Habitat Lowland Mixed Deciduous Woodland (Criteria 3). The grassland, mainly restricted to the north-west, has a varied flora.
Brislington Meadows SNCI	0m southwest	Semi-improved neutral grasslands that may include areas of the priority habitat lowland meadow (criteria 3), stream, marshland and wasteland areas. Black knapweed, rush, brooklime. Brislington Meadows are situated within a densely urban part of south-west Bristol. The site supports a variety of habitats, including Victory Park. [Assessment data pending] <i>NOTE: the extent of the SNCI as represented in the Site Information Form predates the site's allocation for housing. The SNCI designation confirmed in the adopted Bristol City Council Local Policy Map¹ does not overlap with the site.</i>
Callington Road Nature Reserve SNCI	1.3km southwest	Disused allotments with semi-improved neutral grassland, hedgerows and scrub. Part of site is included in Wildlife Network Sites. Blackthorn, hairy

¹ <https://maps.bristol.gov.uk/policies/> [Accessed November 2022]

Site Name and Designation	Location in Relation to Site	Primary Reason(s) for Designation (extracted from BRERC Site Information Forms (Annex C))
		tare, smooth tare, wild carrot, ox-eye daisy, agrimony, hoary plantain, invertebrates. Lies in a south-east slope in Bristol, surrounded by residential areas and commercial development. Disused green lane runs along the southern boundary of the site.
Conham Vale and Dundridge Farm Woodland SNCI	0.9km northeast	Semi-improved acid woodland priority habitat lowland mixed deciduous woodland (much disturbed by past quarrying). Semi-improved neutral and acid grassland with shrubs and tall herbs. In south Bristol, boarded to the west by the River Avon, by the Conham River and residential areas to the east.
Crew's Hole Woodland SNCI	1.8km north	Broadleaved woodland possibly including areas of priority habitat lowland mixed deciduous woodland (criteria 3) and scrub. Situated in southeast Bristol, occupying an area of land sloping down to the north bank of the River Avon. Before 1960 the land was previously stock-grazed and allotments, then used as a landfill site, subsequently being capped and replanted.
East Wood and Fox's Wood SNCI	0.3km east	Ancient semi-natural woodland on steep east facing slopes. The north section (most of east wood) consists of semi-natural broadleaved woodland with mixed canopy. The south section (part East Wood and part Fox's Wood) is secondary woodland. Includes priority habitat lowland mixed deciduous woodland. Situated in southeast Bristol along the River Avon.
East Wood and Keynsham Humpy Tumps complex SNCI	0.6km southeast	Ancient woodland, planted broadleaved woodland, semi-improved neutral grassland and scrub. Tumps: many notable species, prickly sedge, wavy, early and silver hairgrasses, changing forget-me-not, green-winged orchid, upright chickweed, bird's foot trefoil, sand spurrey etc.
Eastwood Farm SNCI	0.02km east	Restored landfill site. Remnants of agricultural landscape with broadleaved woodland, wildflower rich meadows, ponds and water meadows. Includes priority habitat lowland mixed deciduous woodland. Diverse fauna. Most of the site is declared as a LNR. Lies along the River Avon in southeast Bristol and forms part of a larger block of semi-natural habitat along the river with Birch Wood SNCI to the northwest and East Wood SNCI to the southeast. The west lies the residential area of Broom Hill.
Feeder Side SNCI	1.6km north	An artificial canal-like water channel connected to the River Avon at both ends with semi-improved neutral grassland and scrub along banks. Rat's-tail fescue, rue-leaved saxifrage, common scurvygrass and reed sweet grass. Situated in south Bristol and is almost completely surrounded by industrial areas apart from a recreation ground at the northeastern end.
Great Hayes Field SNCI	1.7km east	Unimproved & semi-improved neutral grassland. Flora includes sneezewort.
Hanham Hills Fields SNCI	1.7km east	Calcareous grassland, wetland and woodland. Flora includes tor grass, quaking-grass, field scabious, goldilocks, oak, beech and common lime.
Knowle Golf Course SNCI	1.1km southwest	Unimproved and semi-improved calcareous grassland, hedgerows, wet ditches, stream, pond and three areas of woodland (two semi-natural broadleaved). Part of Brislington Brook forms the western edge and has well-developed bankside vegetation. Situated in southeast Bristol, centered around flowers Hill with moderate to steep slopes. Bordered by housing to the southwest and north, by playing fields to the northwest and east and by Stockwood Open Space SNCI to the south.
Magpie Bottom (Bristol) SNCI	1.8km northeast	Scrub, ruderal vegetation and brook. Important for breeding birds. Local Authority Boundary passes through site.

Site Name and Designation	Location in Relation to Site	Primary Reason(s) for Designation (extracted from BRERC Site Information Forms (Annex C))
Magpie Bottom (South Gloucestershire) SNCI	1.8km northeast	Old orchard with a watercourse, pond and scrub. Local Authority Boundary passes through site.
River Avon (part of) SNCI	0.4km east	The River Avon traverses the city from east to west, flowing through the Avon Gorge and is largely surrounded by urban areas. Range from tidal saline region in west (confluence with R. Severn) through brackish to freshwater in the City. Tidal to St. Anne's. Includes priority habitat mudflats and possibly coastal saltmarsh (criteria 3). In mudflat SNA.
River Avon (BANES) SNCI	1.9km southeast	Bath and North East Somerset section (south bank to centre). A river with associated marginal habitats. Fauna includes otter, red eyed damselfly, brown hawk, emerald damselfly, four spotted chaser etc. Flora includes greater dodder, loddon pondweed, perfoliate pondweed, common clubrush, arrowhead and small teasel.
River Avon (Bristol) SNCI	0.4km east	Bristol section. The River Avon traverses the City from east to west, flowing through the Avon Gorge, and is largely surrounded by urban areas. Range from tidal saline region in west (confluence with R. Severn), through brackish to freshwater in the City. Tidal to St. Anne's. Includes Priority Habitat Mudflats, and possibly Coastal Saltmarsh (Criteria 3). In Mudflat SNA.
River Avon (South Gloucestershire) SNCI	1.9km southeast	South Gloucestershire section (north bank to centre). Flowing open water and bankside vegetation. Flora includes loddon pondweed, horned pondweed, unbranched bur-reed and arrowhead. Fauna includes kingfisher, cormorant, heron etc.
St Anne's Valley SNCI	0.2km north	St. Anne's Valley is north-south running valley in east-central Bristol with wooded slopes, grassland in the valley bottom and a stream (Brislington Brook) running down the center. Semi-natural broadleaved woodland including priority habitat lowland mixed deciduous woodland. In the southern half of the site there are areas of semi-improved neutral grassland but the majority of grassland is managed as amenity grassland. [Assessment data pending]
St Anne's Wood SNCI	0.9km north	The valley sides are clothed in semi-natural broadleaved woodland, with amenity grassland at the bottom of the valley on either side the brook. The woodland has suffered disturbance and exotic species are present in some places. [Assessment data pending]
Stockwood Open Space (Bristol) SNCI	1.1km south	Located in southeast Bristol, a large area comprising mosaic habitats. Old farm meadows, hedgerows, broadleaved and coniferous woodland, scrub, marshland, ponds, stream, reedbed and restored tip. Includes priority habitat lowland calcareous grassland. Diverse fauna including great crested newt, glow-worm, Invertebrate Site Register, birds.
Sturminster Road (Bristol) SNCI	1.8km southwest	An extensive north-south linear site, centered around a disused railway in southeast Bristol. Woodland, scrub, tall ruderal, grassland and stream with associated marginal vegetation. Includes priority habitat lowland calcareous grassland and possibly lowland mixed deciduous woodland and lowland meadow (both criteria 3).
Troopers Hill SNCI	1.6km north	Acidic grassland and lowland heathland of priority habitat types lowland dry acid grassland and lowland heathland. Locally rare plants and grayling. LNR and proposed RIGS early hair-grass, sheep's sorrel. Steep southwest facing slopes and prominent disused chimney, lies along the northern bank of the River Avon in east Bristol. Scattered with spoil heaps, a reminder of former mining and quarrying activity in this area.

- 2.12 The five 'additional' SNCIs identified by the updated ecological desk study (excluding the River Avon SNCIs which were previously included under a single designation) are located at least 1.7km distant and on the opposite side of the River Avon from the application site. The distance and intervening barriers are such that there are no pathways by which development of the application site could give rise to significant direct or indirect ecological effects. The distance of the SNCIs to the application site and their positions within the local ecological network are such that these SNCIs would not be subject to isolation or fragmentation.
- 2.13 Eight 'additional' Bristol Wildlife Network Sites are also now identified to fall within 2km of the refined 2km from the site boundary since the previous ecological desk study was undertaken (Annex A). No site data is available for these sites, but six are located to the north, five of these to the north side of the River Avon, with two sites overlapping the refined 2km buffer in the southwest.

Notable Habitats

- 2.14 No changes to the reported baseline were identified in respect of Habitats of Principle Importance or ancient woodlands.

Pre-existing Species Records

- 2.15 No changes to the reported baseline were identified in respect of:
- European protected species licences granted by Natural England; and
 - Great crested newt pond survey records;
- 2.16 The updated records search (Annex A) identified an additional 9587 species records originating from within 2km of the site since the time of the previous desk study. Applying the breakdown of species record categories provided by BRERC, these comprise:
- 4801 new records for notable species (6, 8, 10 figure grid refs);
 - 4360 new records notable species (4 figure grid refs);
 - 18 new records for sensitive species;
 - 3 new records for bat roosts;
 - 234 new records for bats from the extended bat search results (note this extended search for bat records was not applied by the previous desk study); and
 - 171 new records for invasive species.
- 2.17 Despite the number of additional species records identified by the updated desk study, no new species were identified from this search compared to the species identified from the previous desk study. All the new records are attributed to more up to date recordings.

3.0 Site Walkover

Habitats

- 3.1 There appears to have been further garden waste tipping on the far side of the site boundary in field F1, parallel to Belroyal Avenue (Figure 2). Garden waste may potentially contain non-native invasive species listed on Schedule 9 of the Wildlife and Countryside, which could then spread along boundary features or further into the site. As the site walkover was completed in November, invasive flora was in evidence.

Figure 2: Increased garden waste tipping evident on north side of boundary by Belroyal Avenue



- 3.2 One small section at the southeast end of hedgerow H4 has been substantially damaged by fire (Figure 3) since previous habitat surveys were completed. The fire is understood from Homes England's site management team (RSK) to have been an arson event which also affected a small area of the grassland.

Figure 3: Localised fire damage at east end of hedgerow H4



- 3.3 The grassland has since regenerated but the hedgerow remains fire damaged with little evidence of regeneration of basal scrub or woody growth in the affected section. Management intervention is intended in the winter of 2022/23 to coppice the affected hawthorn to promote healthy regrowth. The fire damage is not considered to materially affect the assessment or conclusions of the Outline Ecological Impact Assessment Report.
- 3.4 There is a small pond feature dug out at the south end of the School Road PRow, between the path and the allotments adjacent in the east and close to the kissing gate that accesses into the site (and Victory Park to the south).
- 3.5 The pond is holding water and has been screened from the PRow with a brash fence or 'dead hedge' type feature (Figure 4). The north end of the ponded area has been blocked off by larger tree limbs which appear to have fire damage. There is no aquatic vegetation associated with this small pond feature, which measures approximately 2m x 2m (depth unknown but it appears relatively shallow).
- 3.6 Discussion with Homes England's Land Management Team (RSK) concludes that this feature is likely to have been recently constructed in late autumn/early winter 2022. Excavation of the pond feature was not authorised and any potential impacts of excavation and ponding in extreme proximity to the trees adjacent to the PRow will be monitored.

Figure 4: Small pond dug adjacent to School Road PRow close to the kissing gate leading into site



- 3.7 The Habitat Suitability Index (HSI) calculated for this pond feature is 0.42. This is of 'poor' suitability for great crested newts. The low HSI is attributed to the very small size, complete shading by overhead tree canopies and lack of aquatic vegetation (this could be attributed to lack of establishment, but given the degree shading and lack of any nearby sources, natural colonisation of aquatic vegetation is considered unlikely).

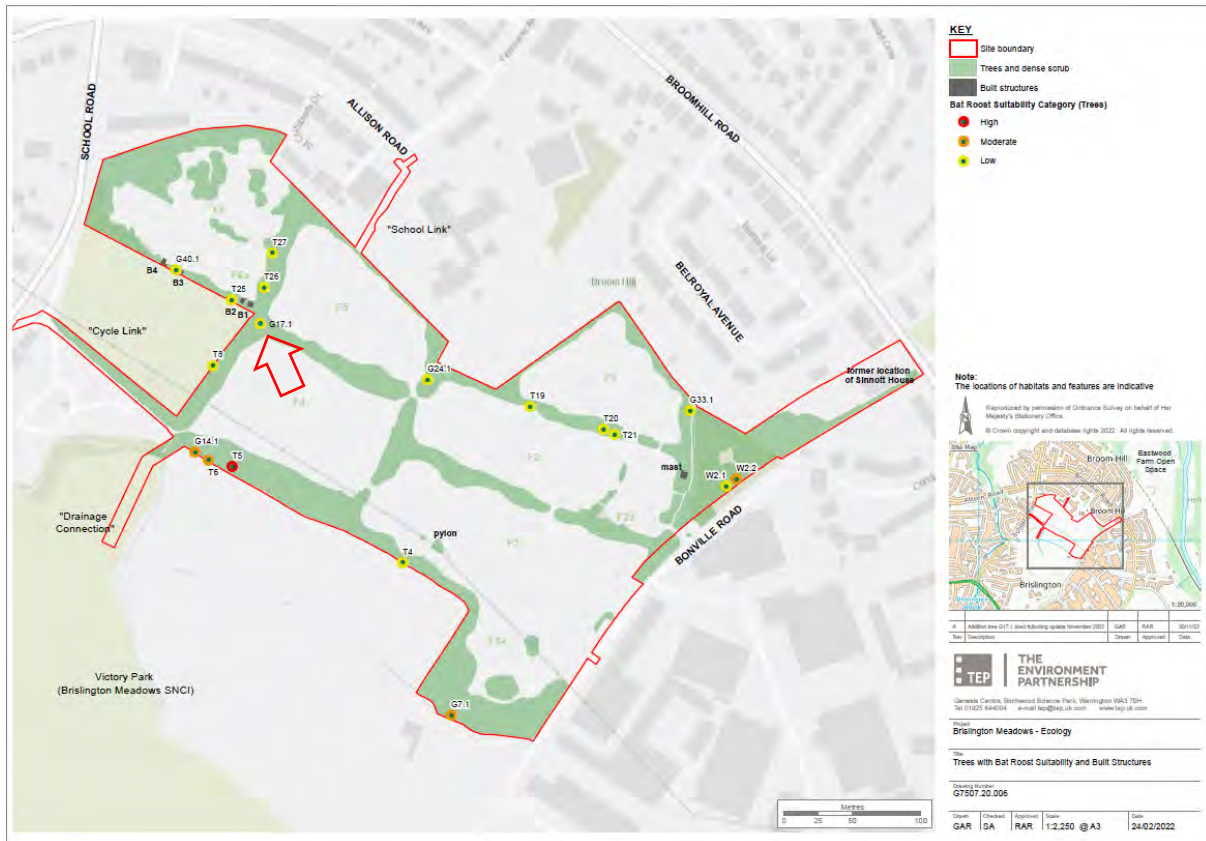
Ground-Based Assessment of Trees

- 3.8 The ground-based assessment of trees identified one further tree within the site to have low suitability for roosting bats (Figure 5). This tree is a small hawthorn, located within hedgerow H5 to the north of the junction between hedgerows H5 and H2 (north side of the pedestrian gap through H2) (Figure 6). The access to the tree is cluttered and sub-optimal for bats, but the small trunk contains a narrow downward facing cavity on the south side (although it is shaded within its location by surrounding canopy).

Figure 5: Small hawthorn inset within hedgerow H5 with low roost suitability for bats



Figure 6: Location of additional tree with bat roost suitability – G17.1 indicated by arrow



Badgers

- 3.9 The November 2022 walkover included a repeat inspection of the disused badger sett previously identified under hedgerow H5 in the northwest of the site. Access from the west side via the paddocks (F6) was not possible during the site visit, so the surveyor crawled beneath the blackthorn scrub from the east side (via field F5) to gain access to field boundary where the sett was located.
- 3.10 The location of the disused badger sett previously identified within hedgerow H5 showed no evidence of any form of occupation during the November 2022 inspection (Figure 7). Ground cover comprising ivy and leaf fall from the oak tree under which the sett was located was searched for evidence of badger activity such as excavations, trails, prints, scratch posts, dung pits, hair or other field signs. No supporting field signs to suggest recent or current activity by badgers in the location was found.

Figure 7: Habitats in location of disused badger sett (looking approximately south and north), showing no evidence of recent or current badger activity



- 3.11 Similar to previous surveys, the dense blackthorn growth along the north boundaries of the site did contain a number of trails with one very clear and worn trail paralleling the majority of the length of the field boundary a few metres inside the blackthorn growth (Figure 8).

Figure 8: Worn trail beneath blackthorn scrub in north of site (hedgerow H5, looking south and north)



- 3.12 These trails were followed and closely inspected as far as possible under the blackthorn canopy for confirmation of badger activity. Identification of prints or claw marks clearly attributable to badger was not possible along the accessible parts of the trails due to the amount of dog access. Hairs found on thorn and bramble at the edge of the scrub were all attributed to dogs. However, it is considered likely that these trails continue to be used by badgers as previously evidenced in the confidential Ecology Appendix I Badger Survey Report.
- 3.13 Numerous other trails leading from beneath scrub canopies into the grassland or vice versa were identified. Of particular note, a reasonably worn trail appears to cross the pedestrian access gap at the north end of hedgerow H2 (Figure 9). The trail could not be followed very far south into H2 due to dense vegetation preventing safe access, even crawling. Again, no conclusive evidence of these being formed by badgers could be found during the site walkover. Despite soft and wet soils at the time of

survey, print and claw marks were inclusive due to degree of dog access obscuring clear identification of any badger prints.

Figure 9: Trail crossing northwest end of H2, looking south and north from pedestrian access gap



- 3.14 Given badgers are known to access the site, at least occasionally and either as individual or small numbers based on previous trail camera evidence, it is considered likely that at least some of the trails identified across the site continue to be used by badgers, as well as by foxes which are also known to be present within the site and by the numerous dogs accessing the site off a lead.
- 3.15 All fields contained several exposed linear diggings within the grass swards, most of which lie within close distance to the desire lines around the field edges. Inspection of these diggings found no conclusive evidence of badger. Where claw marks were visible, prints were attributed to dogs.
- 3.16 Two very small areas of exposed spoil were noted in the north corner of field F1 under the canopy of the young cherries and adjacent boundary vegetation. However, on inspection, this bare spoil was not attributed to diggings of any kind. No snuffle holes, excavations or sett building activity was associated with them.

4.0 Conclusions

Ecological Desk Study

- 4.1 Table 2 of the Ecological Desk Study Report identified and described 23 SNCIs within 2km of the application site. The updated ecological desk study identifies a further eight SNCIs and eight BWNS within 2km, the 'additional' sites being attributed to minor changes in the 2km buffer between data searches. The 'additional' SNCIs are located to the opposite side of the River Avon, at least 1.9km from the application site. The River Avon SNCI is split into three separate sites but which were, by merit of inclusion within the River Avon SNCI identified by the Ecological Desk Study Report, included in the ecological impact assessment. The 'additional' BWNS are similarly located peripheral to the refined 2km search buffer and most to the north of the River Avon. Distances and intervening barriers are such that no pathways are identified

that would give rise to potential ecological impacts upon these 'additional' wildlife sites as a consequence of the proposed development.

- 4.2 The updated desk study identified a substantial number of new records since the previous desk study was completed. These new records have note, however, identified new species in the locality of the site. While distances of pre-existing records from the site are likely to have changed, the new records are not considered to materially alter the findings or conclusions of the suite of ecological surveys completed at the site, nor of those reported by the Outline EclA Report.
- 4.3 The updated ecological desk study does not introduce any material changes to the baseline or findings of the previous Ecological Desk Study. The findings and conclusions of the Outline EclA Report (ref 7507.20.066 version 6) therefore remain relevant.

Ecological Walkover

Habitats

- 4.4 There is no material change to the baseline situation as reported for habitats in the submitted EclA and supporting Ecological Technical Appendices. The assessment set out in Section 5.0 and the recommendations in Section 6.0 of the EclA remain relevant.

Ground-based Assessment of Trees for Bat Roosting Potential

- 4.5 There is no material change to the baseline situation as reported for bat roost suitability of trees in the submitted EclA and Ecological Technical Appendix J Bat Surveys. One additional tree was identified with low roost suitability on the northwest boundary. The tree location would be retained. The assessment set out in Section 5.0 of the EclA remains relevant.
- 4.6 Recommendations set out in Section 6.0 of the EclA remain relevant, namely (in respect of potential tree roosts):
- All trees confirmed at the detailed design stage to require removal or other works will be subject to repeat inspection by a licenced ecologist to determine roost suitability;
 - Prior to removal or other works affecting the trees, any trees identified with potential roost features will have an appropriate felling strategy (or method statement for other works) produced, according to the findings of the inspections;
 - Should any tree roosts be confirmed in trees to be affected, a licence from Natural England would be obtained to permit removal or other works affecting the tree; and
 - Bat boxes will be installed on a 3:1 ratio for any tree with potential roost features to be lost.

Badgers

- 4.7 There is no material change to the baseline situation as reported for badgers in the submitted EclA and Ecological Technical Appendix I Badger Survey.

- 4.8 Although the final response from BCC ecology officer indicates activity by badgers along hedgerows H5 and H2 since submission of these documents in support of the Outline Application, badgers are a mobile species with seasonal peaks in activity levels. The assessment set out in Section 5.0 of EclA remain relevant. It is accepted that badgers are resident locally and that the local population utilises the habitats on site. The disused sett recorded in H5 remains disused as of this update walkover and evidence indicates badgers are continuing to utilise hedgerows at least for dispersal and foraging.
- 4.9 Recommendations set out in Section 6.0 of the EclA remain relevant, namely:
- Mitigation and management method statement to be submitted with any future Reserved Matters application;
 - Ongoing monitoring of badger activity to identify changes in use, evidence of sett occupation and whether a licence from Natural England may be required to facilitate any part of construction activity;
 - Appropriate avoidance and protection measures implemented during construction to prevent entrapment risks; and
 - Preference to retain disused sett within H5 in situ within an appropriate setting, even if it continues to remain disused.

Annexes

Annex A: Data returns from BRERC within refined 2km buffer from site boundary applied during the updated desk study in November 2022.

Key to Colours and Codes on Maps

BRERC
St Nicholas Church
St Nicholas Street
Bristol BS1 1UE

Tel: 0117 9349833
Fax: 0117 9273918
E-mail: dataenquiries@brerc.org.uk
Web: www.brerc.org.uk



Your Site and Buffer



Enquiry site boundary and buffer zone around it



North

Notable and Non-Notable Species: location of records

For a definition of 'Notable Species' please see notes overleaf.



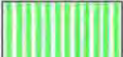
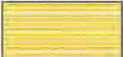
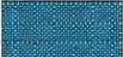


	4 figure grid reference record(s) of notable species. (The symbols are displayed at the lower left or south west corner of the grid referenced square)		4 figure grid reference record(s) of NON-notable species. (The symbols are displayed at the lower left or south west corner of the grid referenced square)
	6, 8 or 10 figure grid reference record(s) of notable species		6,8 or 10 figure grid reference record(s) of NON-notable species
	Bat roost record(s), approximate location		Surveyed veteran tree record(s)
	Bat record(s)		Surveyed pond record(s)
	Other geological sites		Non-native invasive species record(s)

Sites

	Site of Special Scientific Interest (SSSI) shown with site name.		Regionally Important Geological / Geomorphological Site (RIGS) shown with site name.
	Site of Nature Conservation Interest (SNCI), known as Wildlife Sites in North Somerset. Shown with site name.		Proposed Regionally Important Geological / Geomorphological Site (RIGS) shown with site name.
	Local Nature Reserve (LNR) shown with site name.		National Nature Reserve (NNR) shown with site name.
	Inventory of Ancient Woodland site (IAW) shown with site name.		Special Protection Area (SPA) shown with site name. (To protect wild birds, EU Birds Directive – Council Directive 79/409/EEC, 2nd April 1979)
	Special Area of Conservation (SAC) shown with site name. (EU Habitats Directive – Council Directive 92/43/EEC, 21 st May 1992)		RAMSAR shown with site name. (Ramsar sites are wetlands of international importance, designated under the Ramsar Convention.)
	Bristol Wildlife Network Site (see the current Bristol Local Plan 1997*)		Avon Wildlife Trust Reserve, shown with site name.

Key to Colours and Codes on Maps

Strategic Nature Areas/ Nature Map: (PTO *)

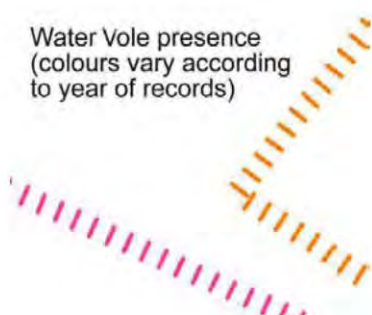
	River
	Woodland
	Neutral Grassland
	Calcareous Grassland
	Coastal and Floodplain Grazing
	Calcareous Grassland, Woodland
	Maritime Cliff and Slope



Surveyed Hedgerows:

Shown with an ID number that corresponds to survey information on the spreadsheet list. "Important" hedges with more than 7 species, shown in red.















Water Vole presence
(colours vary according
to year of records)



Maps showing other features
may also be included and
information about them will be
provided on the map and/or
separate documentation.










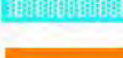

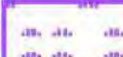





Continued over.

Water Vole Key:

	1997
	1998
	1999
	2000
	2001
	2002
	2003
	2004
	2005
	2006
	2007
	2008
	2009
	2010

UK Priority Habitats:

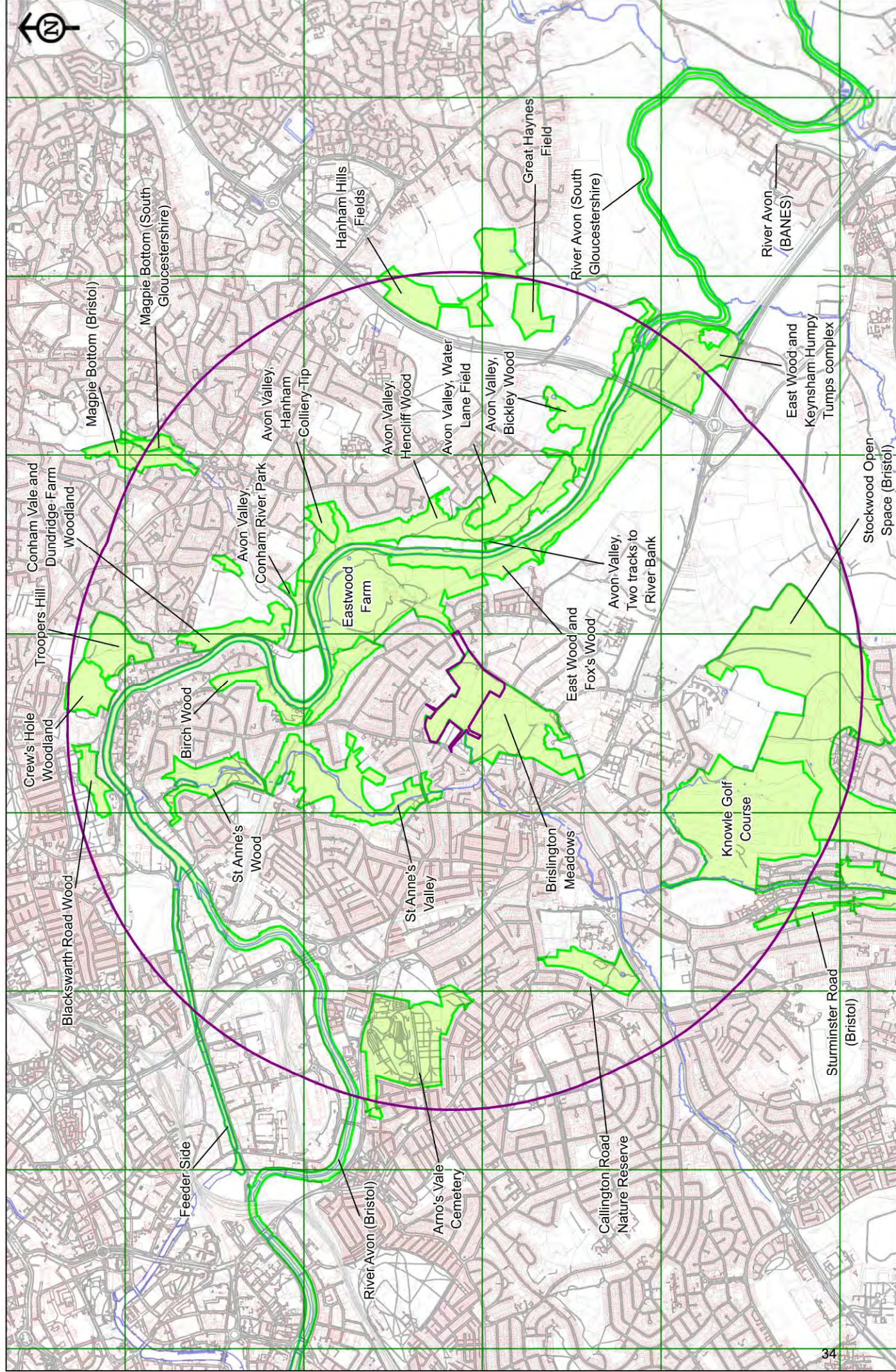
Please refer to additional spreadsheet information
and the "criteria used".

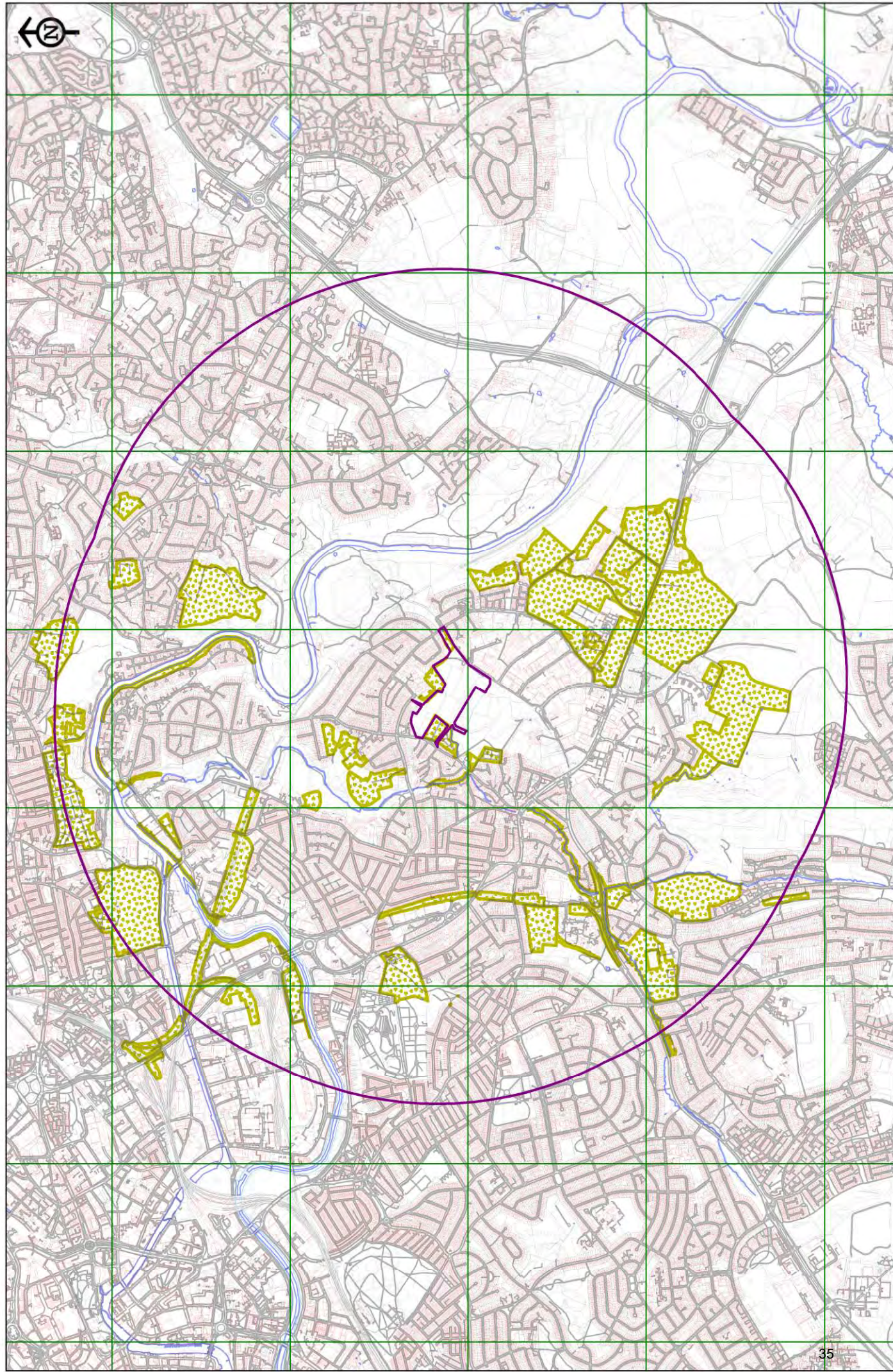
	Coastal and floodplain grazing marsh
	Coastal sand dunes
	Coastal saltmarsh
	Coastal vegetated shingle
	Fens
	Lowland beech and yew woodland
	Lowland calcareous grassland
	Lowland dry acid grassland
	Lowland heathland
	Lowland meadows
	Lowland mixed deciduous woodland
	Maritime cliff and slope
	Mudflats
	Purple moor grass and rush pasture
	Sabellaria alveolata reefs
	Upland mixed ashwoods
	Wet woodland

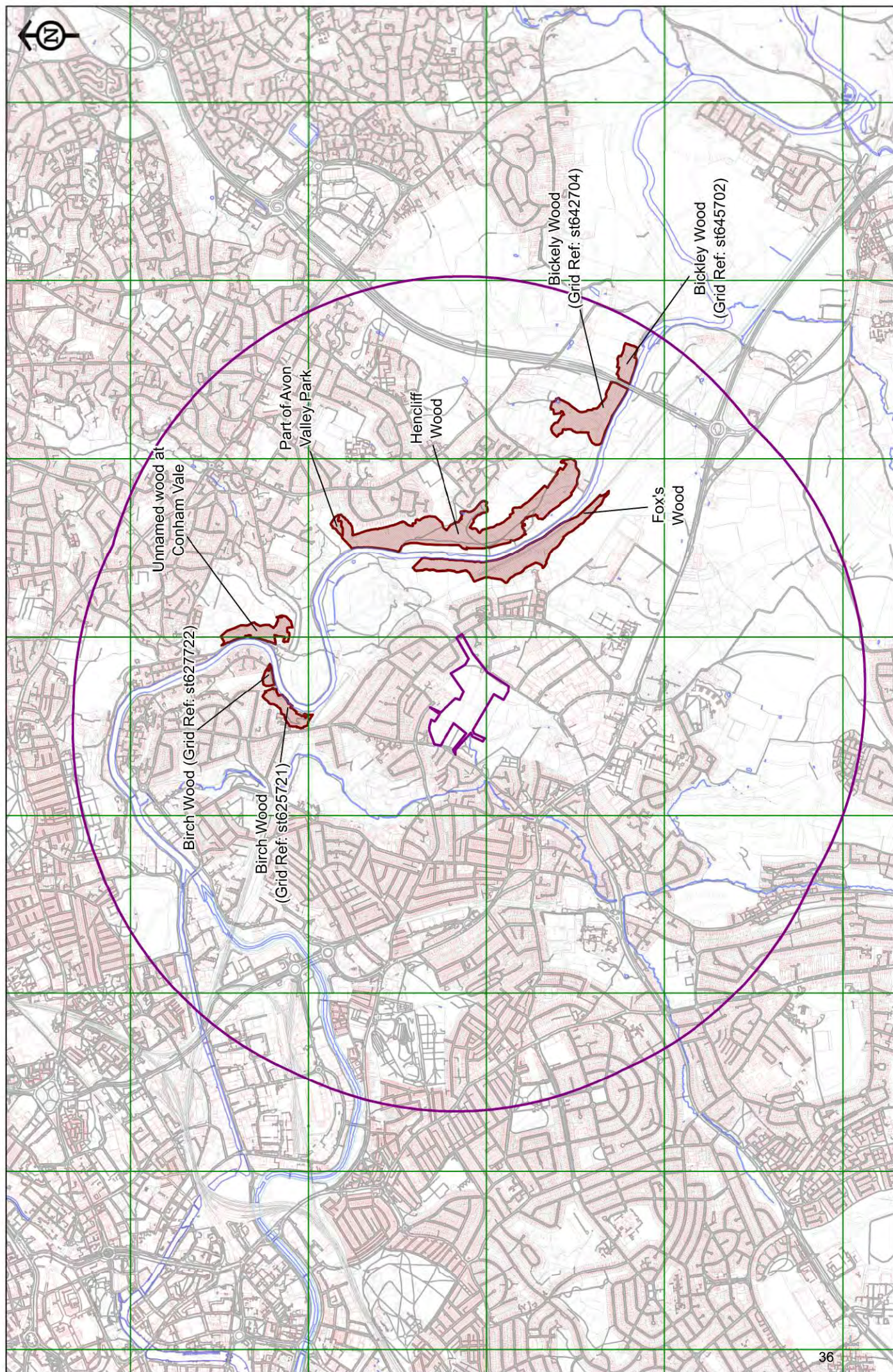
Key to Colours and Codes on Maps

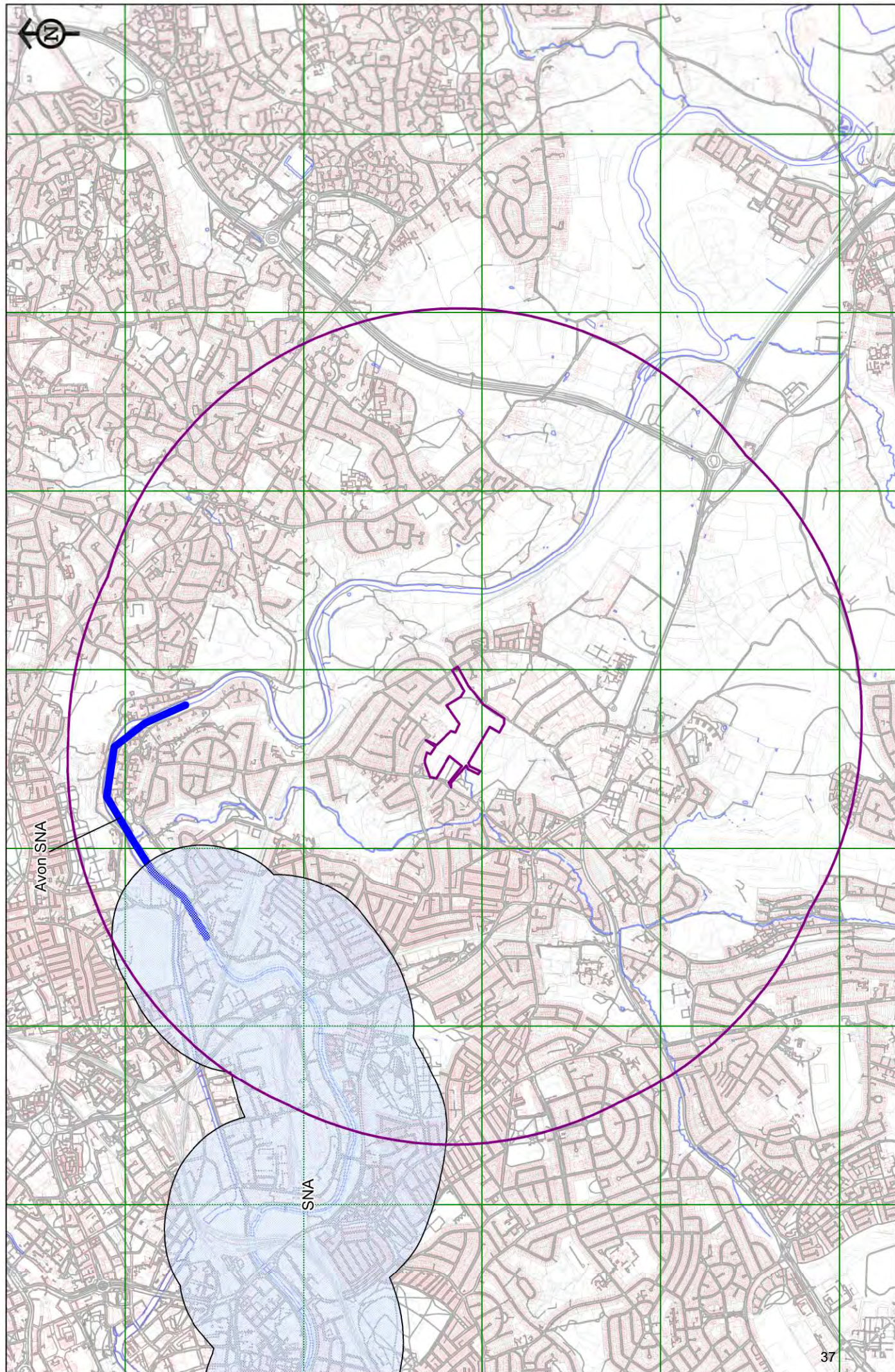
Notes

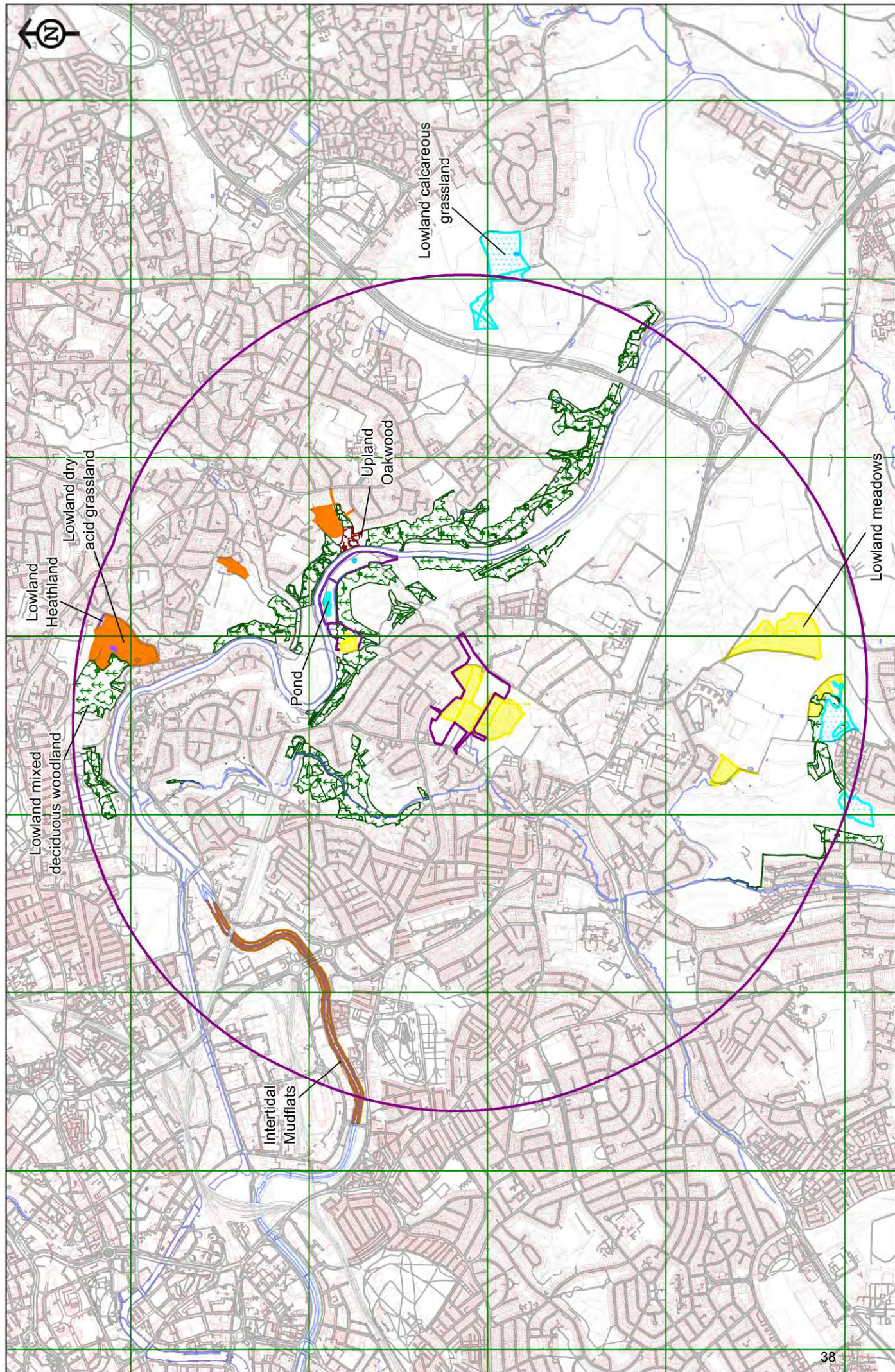
- Four figure grid referenced records indicate that the record may occur anywhere within the relevant 1km square.
- The map symbol for the four figure grid reference marks the south west (bottom left) corner of the 1km square.
- Please note that the absence of records for habitats and/or species should not imply that these are not present, merely that a full search of the BRERC data has not been conducted OR that BRERC currently holds no available data on them.
- The definition of Notable Species, an explanation of the process used to determine them, and a list of the notable species are available on request. The last full review was carried out in 1999. As such, statuses may have changed in the interim. BRERC currently lack the resources to carry out a full Notable Species review and to update all the statuses accordingly.
- BRERC recommends that an up to date field survey should be carried out to supplement any desk top study and specialist groups should be consulted.
- BRERC is not a designating authority. We cannot supply reasons for designation; these should be sought from the Unitary Authority or Natural England.
- * Further information about Strategic Nature Areas or the “Nature Map” of the south west may be found at this website:
<http://www.swo.org.uk/sotsw08/index/section145/section152/section153/> or from the South West Observatory / Environment Agency, Manley House, Kestrel Way, Exeter EX2 7LQ.
- * Further details about Bristol Wildlife Network Sites can be found in the current Bristol Local Plan (1997), page 45, which is downloadable from the Bristol Council website at
<http://www.bristol.gov.uk/ccm/content/Environment-Planning/Planning/planning-policy-documents/bristol-local-plan/file-storage-items/bristol-local-plan---written-statement---adopted-1997.en>
- Examples of most species can be viewed at Bristol City Museum & Art Gallery by appointment to the biology curator, Tel: 0117 9223598
- A full explanation of the enquiry process is available on our website at www.brerc.org.uk
- Is the data you have received useful? Have you any comments or suggestions for improving our enquiry service? Do you have a few words of praise? Please e-mail dataenquiries@brerc.org.uk and let us know how we are doing.

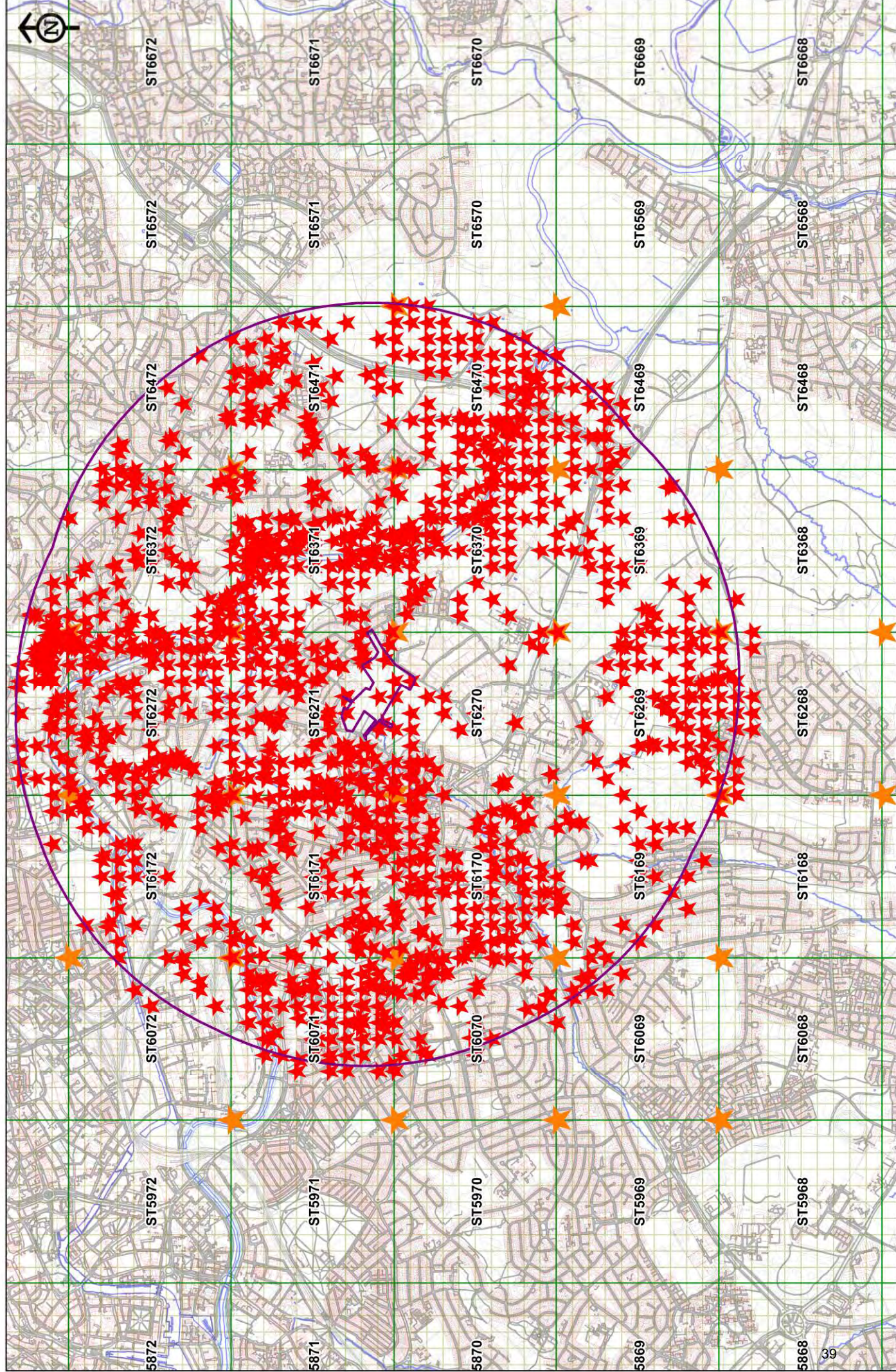


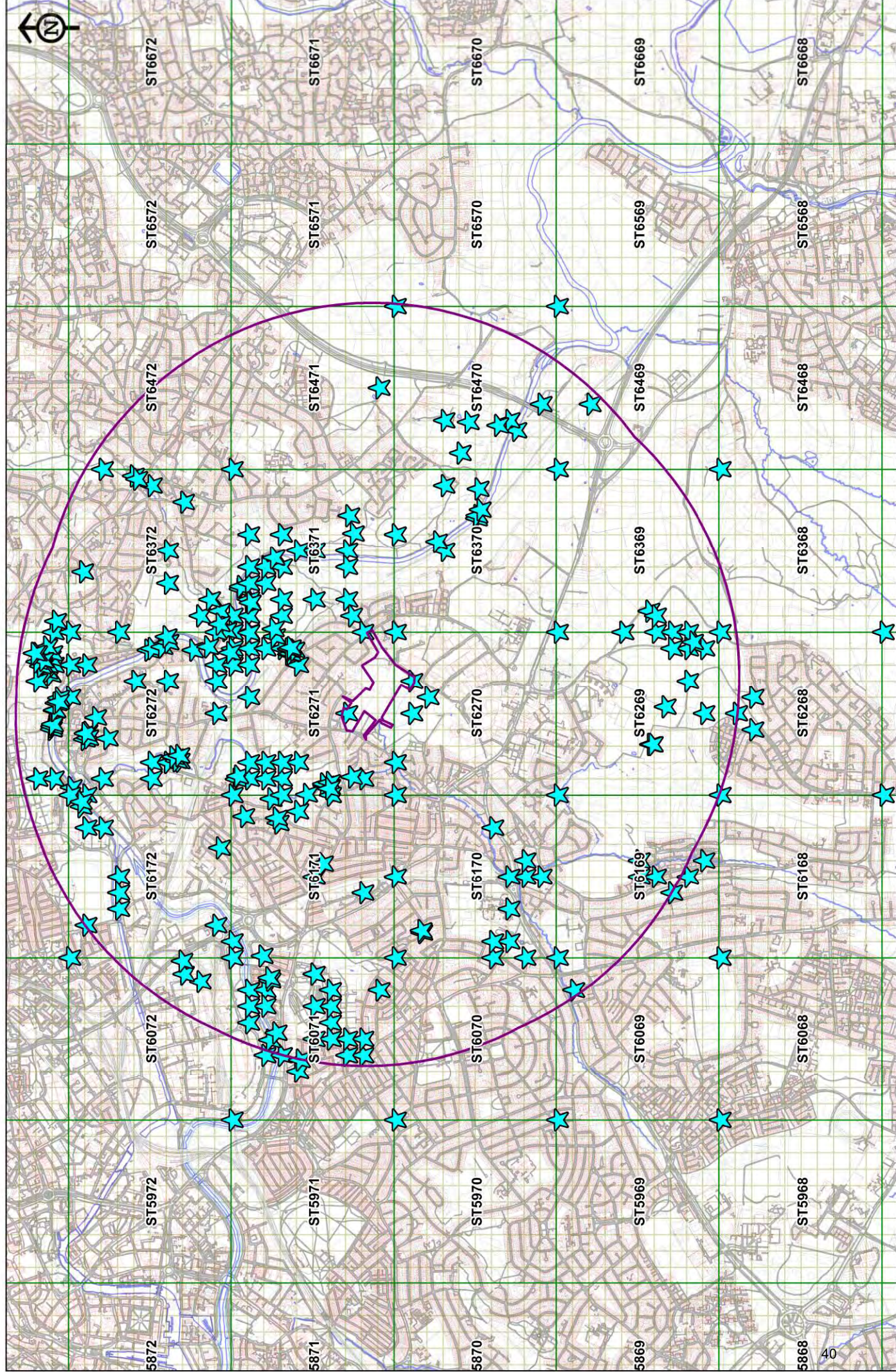












Appendix C

Updated Biodiversity Net Gain Assessment and Ecological
Impact Assessment (November 2022)

Brislington Meadows

BNG and EclA Briefing Note November 2022

Project	Brislington Meadows	Author	Dr Rachel Roberts
Date	29 November 2022	Checked	Francis Hesketh
Doc Ref	7507.43.004	Approved	Francis Hesketh
Version	1.0	Purpose	Revised BNG and EclA assessments, assuming original 'Whole SNCI' boundary coverage remains in force.

1.0 Introduction

- 1.1 This briefing note presents the findings of a revised Biodiversity Net Gain (BNG) assessment and ecological impact assessment (EclA) completed in November 2022.
- 1.2 The Outline BNG assessment for the Brislington Meadows outline planning application was reported in TEP Document Reference 7507.20.070 [version 4]. The Outline Ecological Impact Assessment (EclA) was reported in TEP Document Reference 7507.20.066 [version 6].
- 1.3 The revisions in this Briefing Note are specifically based on the premise that full coverage of the 'Whole SNCI' boundary for Brislington Meadows SNCI remains in force. This premise results in the application site, within the footprint of the allocation, remaining designated as SNCI (part of the wider Brislington Meadows SNCI which extends further south offsite).
- 1.4 During the course of pre-application desk studies and consultation, it was advised to TEP by Bristol City Council (BCC) that the Brislington Meadows SNCI no longer remained in force within the allocation boundary, a consequence of the allocation (BSA1201). This was consistent with the Adopted Local Plan Policy Map¹ which does not show SNCI designation within the allocated area for BSA1201. This was therefore the position adopted for the purposes of completing the Outline EclA and the Outline BNG Assessment.
- 1.5 However, during the course of determination BCC reversed its opinion relating to the SNCI designation in so far as its coverage within the allocated area of the site. This briefing note explains resultant changes to the EclA conclusions and Outline BNG calculations as a consequence of this revised position, namely the majority of the site remaining designated as SNCI.
- 1.6 The BNG calculations for the Brislington Meadows outline planning application were produced using the Biodiversity Metric 3.0, the published approved metric at the time of the application. The current metric is version 3.1. However, in accordance with Natural England's advice, the application of Metric 3.0 is continued for this revised version to maintain consistency. There is no proposal to update to Metric 3.1 at this stage, as results between the two versions would not be comparable.

¹ <https://maps.bristol.gov.uk/policies/> [Accessed November 2022]

2.0 Revised Biodiversity Net Gain Assessment

Revised Biodiversity Metric

Strategic Significance – Current Approach

- 2.1 The Outline BNG Assessment calculations for the baseline habitats (area and linear) were based on the allocated area (BSA1201) no longer being designated as SNCI, in line with advice received from BCC and in accordance with the Adopted Local Plan Policy Map. On that basis, the strategic significance of linear and area habitats falling within the allocation footprint was assigned as “location ecologically desirable but not in local strategy”. This represented the ‘medium strategic significance’ in recognition of the important ecological position of the allocated site within the local network.
- 2.2 Localised areas of the site were assigned with the ‘high strategic significance’ referred to as “within area formally identified in local strategy”. These areas included:
- the connection to School Road, which remained within the ‘residual SNCI’ coverage;
 - the drainage link extending into Victory Park, which remained within the ‘residual SNCI’ coverage;
 - the ‘School Link’ extending up to Fermane Avenue and Allison Road, which crosses through land within Broomhill Junior School which is identified on the Adopted Local Plan Policy Map as Important Open Space and is also part of a Bristol Wildlife Network Sites (BWNS) (note that the whole route of this School Link area within the outline application boundary was assigned the same level of high strategic significance for ease of calculations and adopting a precautionous approach);
 - the ‘former Sinnott House’ area extending up to Broomhill Road, which is identified on the Adopted Local Plan Policy Map as Important Open Space and also a BWNS.
- 2.3 Post-development habitats created or enhanced (area and linear) were assigned either:
- ‘medium strategic significance’ (“location ecologically desirable but not in local strategy”) where habitats were located within GI areas and corridors identified by the Landscape Parameter Plan ((LDA Design Drawing Ref 7456_102); or
 - ‘low strategic significance’ (“area/compensation not in local strategy/ no local strategy”) where habitats were located within the development footprint, as defined by the Land Use Parameter Plan (LDA Design Drawing Ref 7456_103).
- 2.4 The only exception to this is a small habitat parcel of scrub located along the connection to School Road that was proposed for enhancement (a one-step improvement in habitat condition). This parcel is located within the ‘residual SNCI’ area (that area of the SNCI remaining outside of the allocation area) and was therefore again assigned as ‘high strategic significance’, the same as this parcel was assigned within the baseline calculations.

Strategic Significance – Revised Approach

- 2.5 The revised approach adopts the premise that the ‘Whole SNCI’ area remains in force, i.e. that the allocation area retains the SNCI designation.

- 2.6 Under this revised approach, all habitats (area and linear) within the outline application boundary are assigned 'high strategic significance', being located either within a SNCI designation or within Important Open Space and/or BWNS.
- 2.7 Strategic significance for habitats proposed to be created or enhanced remains as described at paragraphs 2.3 and 2.4.
- 2.8 No other parameters within the revised BNG assessment are amended, including for baseline habitats or habitats created or enhanced.

Revised Biodiversity Metric Calculations

- 2.9 The revised Biodiversity Metric calculator tool is provided under separate cover as TEP Document Reference 7507.43.006.
- 2.10 The adjustment of the strategic significance for baseline habitats increases the baseline habitat unit value from 59.02 to 61.66 and the baseline hedgerow unit value from 4.42 to 4.62.
- 2.11 The increased baseline habitat unit value raises the 10% net gain target to 67.83 habitat units. The hedgerow unit 10% net gain target is increased to 5.08 hedgerow units.
- 2.12 The post-development habitat unit value is amended from 44.78 to 44.85. While the strategic significance of habitats proposed to be created or enhanced are not amended in this revised assessment, the post-development habitat unit value increase within the metric is attributed to in-built mechanisms in the metric which cannot be adjusted. Namely, the baseline habitats which are now assigned with 'high strategic significance' and which are proposed for retention with no enhancement retain their high strategic significance within the metric.
- 2.13 The post-development hedgerow unit value is amended from 10.26 to 10.34. As with post-development habitat unit values, this nominal increase is attributed to the baseline strategic significance assigned to habitats proposed to be retained with no enhancement.
- 2.14 To adopt a precautionary approach which also reflects the conclusions of the ecological impact assessment relating to impacts upon the function and integrity of the SNCI network, it is assumed for the purposes of this revised metric that the post-development habitat and hedgerow unit value predicted by the current Outline BNG Assessment is more appropriate. This position assumes none of the habitats within the allocation area would retain SNCI designation post-development. On this basis, the post-development habitat unit value should be considered to remain at 44.78 units and the hedgerow unit value should be considered to remain at 10.26 units.
- 2.15 Adopting the revised baseline unit values and retaining the original predicted post-development unit values, the shortfall in habitat unit value which is required to be delivered on or offsite to achieve the 10% BNG net gain targets is 23.05 units (67.83 units target value minus the predicted 44.78 post-development units).

- 2.16 Of the additional minimum 23.05 habitat unit targets to be delivered (on or off site), based on the Biodiversity Metric impact calculations and trading summary, these would comprise habitats of medium distinctiveness or greater in the following broad types:
- Grassland – minimum 14.61 units (63% of net unit delivery)
 - Heathland and shrub – minimum 8.37 units (36% of net unit delivery)
 - Woodland and forest – minimum of 0.07 units (1% of net unit delivery)
- 2.17 Hedgerows continue to deliver the minimum target threshold post-development in this revised approach. No additional unit delivery is therefore required to achieve the 10% net gain target for hedgerows.
- 2.18 As an outline application, it is not possible at this stage to confirm details of the offsetting package. Indeed, detailed discussion with BCC in relation to offsite ecological mitigation was precluded by the land agreement between Homes England and BCC until outline planning consent has been granted.
- 2.19 It is therefore noted that the above shortfall units are calculated in the absence of baseline unit value calculations for offsetting site(s) that may be identified during detailed design stages as suitable for implementation of the necessary offsetting. The Outline BNG Assessment would require updating once offsetting site(s) are identified to determine if additional habitat units may be needed to adequately address impacts to baseline habitats within the offset site, thus ensuring the 10% net gain delivery accounts for both on and offsite changes.
- 2.20 Further updates to the BNG Assessment may also be required at the Reserved Matters stage once detail site layouts, landscape design, phasing and other relevant details are finalised.
- 2.21 The calculated shortfall of 23.05 habitat units and the composition of these units to be delivered are therefore stated as minimum commitments. Homes England remains committed to ensuring the proposed development at Brislington Meadows achieves 10% net gain by a combination of on and offsite measures.
- 2.22 It is concluded by the Outline BNG Assessment and Outline EcIA that delivery of the habitat unit shortfall – now revised to a minimum of 23.05 habitat units (comprising 14.61 grassland units, 8.37 heathland and shrub units and 0.07 woodland and forest units, all of medium distinctiveness or greater) - would be achieved via offsetting and/or purchase of Biodiversity Credits, both being valid mechanisms for BNG delivery.
- 2.23 As stated in the Outline BNG Assessment and Outline EcIA, it is anticipated that the details of the offsetting package and the delivery mechanism(s) by which the habitat unit shortfall would be implemented to ensure the scheme delivers 10% net gain would be agreed with BCC and relevant stakeholders during the detailed design stage. It also remains the case that delivery is anticipated to be secured through standard development controls, namely an appropriately worded planning condition or a planning obligation.

Revised Ecological Impact Assessment

- 2.24 The Outline EclA adopted the position that the allocated part of the site was no longer designated as part of the Brislington Meadows SNCI, in accordance with advice received from BCC and the Adopted Local Plan Policy Map.
- 2.25 This briefing note sets out the revised position of BCC, whereby the SNCI designation remains in force concurrently with the site allocation BSA1201.
- 2.26 The Outline EclA for Brislington Meadows SNCI does not identify permanent physical loss of the SNCI, although temporary loss and either reinstatement or enhancement is accounted for within the 'drainage link' and 'School Road link' areas of the SNCI respectively. Further, the Outline EclA assesses impacts upon the local network of sites, including the 'residual SNCI' in light of the site's important ecological position and function. Mitigation to reduce fragmentation of the local sites network is proposed, including Green Infrastructure links east towards Eastwood Farm Open Space in accordance with the allocation policy BSA1201.
- 2.27 The revised position of the site's designation as SNCI does not amend assessment of temporary effects upon Brislington Meadows SNCI in the 'drainage link' or 'School Road link' or fragmentation impacts upon the local sites network as currently reported.
- 2.28 The data form for Brislington Meadows SNCI does not appear to record the SNCI net area, but it is estimated to be 26.6ha using Arc GIS to measure the approximate extent for the Whole SNCI. The revised position of the site's designation as SNCI would therefore result in a net loss of 8.9ha from the Brislington Meadows SNCI designated area. This assumes loss of the whole footprint of the SNCI within the application boundary, except for the extents extending up to School Road and into Victory Park, which would remain within the 'residual SNCI' area. This is a loss of 33% of the net area of the Brislington Meadows SNCI.
- 2.29 Net loss of the SNCI was considered by the allocation process, as evidenced by the accounts reported in the Strategic Housing and Land Availability Assessments (SHLAA) published in 2008 and 2009, the Site Allocations and Development Management Policies (SADMP) Sustainability Appraisal Main Report published in 2013 and the SADMP Site Allocations Annex published in 2014. BCC's Planning Committee Report (7th December 2022) confirms that the SNCI designation is not considered a material consideration and the policy protection it confers cannot be applied to development that accords with the allocation.
- 2.30 Designation of new/replacement SNCI to offset the loss of net area from the SNCI network as a consequence of planning decisions, namely allocation of designated areas, sits with the Council. It is not within the remit of the Applicant to offset net loss of SNCI designation. Mitigation and compensation measures required to address impacts upon the habitats and species supported within the designated area are accounted for the by Outline EclA and Outline BNG Assessment.
- 2.31 The SNCI designation as far as it overlaps the allocation area BSA1201 therefore does not materially alter the findings or conclusions of the Outline EclA.

Appendix D

Technical Note on Hedgerow Origins and History

Brislington Meadows - Technical Note – Historic Hedgerows

Project	Brislington Meadows	Author	Amir Bassir BSc PGCert MCIfA
Date	06/01/23	Checked	Franki Webb BA (Hons) PGDip MA MCIfA
Doc Ref	7507.43.005	Approved	Jason Clarke BSc (Hons) MA MCIfA
Version	1.1	Purpose	To summarise and expand on the conclusions of an initial historic environment desk-based assessment following further research. To respond to BCC ecology, landscape and arboriculture officers' objections in relation to "important" and "ancient" hedgerows.

My name is Amir Bassir. I am a Principal Historic Environment Consultant at The Environment Partnership (TEP) Ltd. I have a degree in archaeology and geology and have been a heritage professional archaeologist since 2009, having worked in commercial archaeology for 14 years and as a consultant since 2018. I am a full member of the Chartered Institute for Archaeologists (CIfA). I conduct my profession to the standards required by the Institute's Code of Conduct (CIfA 2022).

1.0 Historic Hedgerows

- 1.1 This technical note has been prepared in response to consultee comments regarding the origin and importance of hedgerows at Brislington Meadows and follows additional research carried out subsequent to an initial historic environment desk-based assessment and archaeological surveys (TEP 2020).

Hedgerow Regulations

- 1.2 The archaeology and heritage criteria used to assess hedgerows are contained within Schedule 1, Part II of the 1997 Hedgerow Regulations². For a hedgerow to classify as important under these criteria it must have existed for 30 years or more and satisfy at least one of the criteria listed in paragraphs 1-5 as follows:
1. Any hedgerow that marks the boundary or part of the boundary, of at least one historic parish or township; and for this purpose "historic" means existing before 1850.
 2. Any hedgerow that incorporates an archaeological feature which is:

² [The Hedgerows Regulations 1997 \(legislation.gov.uk\)](https://www.legislation.gov.uk/uksi/1997/1000/schedule-1/part-ii)

- a) included in the schedule of monuments compiled by the Secretary of State under section 1 (schedule of monuments) of the Ancient Monuments and Archaeological Areas Act 1979; or
 - b) recorded on or prior to the 24th March 1997 in a Sites and Monuments record.
 - 3. The hedgerow:
 - a) is situated wholly or partly within an archaeological site included or recorded as mentioned in paragraph 2, or on land adjacent to and associated with such a site; and
 - b) is associated with any monument or features on that site.
 - 4. The hedgerow:
 - a) marks the boundary of a pre-1600 AD estate or manor recorded at the relevant date in a Sites and Monuments Record or in a document held at that date at a Record office; or
 - b) is visibly related to any building or other feature of such an estate or manor.
 - 5. The hedgerow:
 - a) is recorded in a document held at a Record Office as an integral part of a field system pre-dating the Inclosure Acts; or
 - b) is part of, or visibly related to, any building or other feature associated with such a system, and that system:
 - i. is substantially complete; or
 - ii. is of a pattern which is recorded in a document prepared before the relevant date by a local planning authority, within the meaning of the 1990 Act, for the purposes of development control within the authority's area, as a key landscape characteristic.
- 1.3 Assessment under the archaeology and heritage criteria of the Hedgerow Regulations 1997 considers the significance of a hedgerow as a component to the historic landscape or as an archaeological feature and does not take into consideration the variety or quality of the living component or its habitat value which have been assessed in separate reports.
- 1.4 The historic environment desk-based assessment submitted as part of the application (TEP 2020)³ included an overview of the historic background of the proposed development site including a review of available cartographic evidence. Information derived through this process was used to assess the importance of identified hedgerows against the criteria defined under the Hedgerow Regulations 1997.
- 1.5 Seven hedgerows, labelled HH1-HH7, were identified in the desk-based assessment document as important under the Hedgerow Regulations 1997 since they could be demonstrated to have been in place since at least 1840. It was noted that they were likely put in place following enclosure in the late 18th century. The hedgerows within the development area are not considered as meeting the criteria 1 to 4 but are considered to fulfil criteria 5a. Two additional hedgerow boundaries, HH8 and HH9, have been included in this Technical Note following further review of evidence (Figure

³ TEP 2020, *Brislington Meadows, Brislington, Bristol, Historic Environment Desk-Based Assessment*, The Environment Partnership (TEP) Ltd, Report ref 7507.022.002

G7507.43.002). Boundary HH9 may be considered as excluded from the Hedgerow Regulations as it forms the curtilage of several private dwellings. *Application of Regulations* states:

(3) These Regulations do not apply to any hedgerow within the curtilage of, or marking a boundary of the curtilage of, a dwelling-house

- 1.6 “Inclosure Acts” as referenced in paragraph 5 of the regulations has been interpreted as a collective title applied to a number of Acts of Parliament and is so named by the Short Titles Act of 1896 with the earliest Act known by this collective title dating to 1845.
- 1.7 This conclusion was confirmed by the outcome of a Judicial Review case, Flintshire County Council -v- NAW & Mr J T Morris, following which, in May 2022, a guidance letter on the application of the Hedgerow Regulations 1997 was issued by Defra to the Chief Planning Officers in England⁴.
- 1.8 The case concerned the meaning of schedule 1 part II, paragraph 5 of the hedgerow Regulations 1997 which lays down criteria for determining the importance of hedgerows that form part of, or are associated with, field systems pre-dating the Inclosure Acts. The letter summarized the outcome of the case and stated that “*The phrase ‘pre-dating the Inclosure Acts’ should be taken to mean before 1845 (whether or not Inclosure Acts exist for the area in question), that being the earliest of the Acts known by the collective title given by the Short Titles Act 1896.*” It also clarifies that the completeness of the field pattern is irrelevant and that a hedgerow would still be important even if it is now the only remaining part of a pre-1845 field system.
- 1.9 It is therefore considered that for the purposes of assessment under criteria 5a, that if a hedgerow is shown on a tithe map or other map as predating 1845, regardless of the completeness of the field system, it will fulfil that criterion and be considered as ‘important’.

⁴ Cane, Stephen, “*Guidance on the Application of The Hedgerow Regulations 1997: Criteria for Determining “Important” Hedgerows*”, 23 May 2002, DEFRA, available at [Tiff2PDF \(publishing.service.gov.uk\)](https://tiff2pdf.publishing.service.gov.uk)

Historic Map Evidence

- 1.10 Photographs or scans of historic maps and aerial views have been geo-rectified by the author onto modern Ordnance Survey mapping. Due to the relative inaccuracy of historic mapping and the extent of modern developments which can result in the removal of historic landscape features this overlay process is not fully accurate and should be considered as a relative guide only. Modern boundaries can be altered over time and may not fully correspond or align with the position of a historic counterpart.
- 1.11 It is emphasised that historic assessment of hedgerows considers them as landscape or boundary features without considering the quality of the living component. Cartographic analysis relies on comparing the alignment of boundary features shown on historic maps with modern equivalents. Boundaries can be altered over time and may not fully correspond or align with a historic counterpart. Modern development may retain or respect the alignment of a historic boundary or hedgerow but may not incorporate or fully retain a historic physical boundary component, or a historic hedgerow may have become significantly degraded such that while it respects an historic alignment and may be considered historically important it might not be considered as a hedgerow in an ecological assessment.

1779 Enclosure Map (Figure G7507.43.003)

A Plan of the late commonable Tract or Piece of Waste Land called Brislington otherwise Bussleton Common as Divided and Inclosed by an Act of Parliament passed in the 18th Year of the Reign of his perfect Majesty George the Third⁵.

- 1.12 The Bristol and Somerset archives retain several versions of this map which date to 1779 and 1780. They exist as separate map documents or one instance which accompanies a photocopy of the text of an Act of Parliament. The Act itself dates to 1778, and the map version reproduced in the figure accompanying this technical note is dated to 1779.
- 1.13 This map is the earliest detailed one available for the area and shows the former Brislington Common following its Inclosure by Act of Parliament in c1778. At the north-east extent of the site the area of the former Synod House and the hedgerow boundary labelled as HH9 fall within this map area and HH9 corresponds with a boundary shown on this map.
- 1.14 The area to the south of the common is labelled as “Brislington Old Enclosures” thereby indicating that some enclosures had already taken place in the wider area. No information is provided for the date, location, extent or nature of these “*Old Enclosures*”, and it is not clear to what extent the Old Enclosures labelled on this map relate to the arrangement of hedgerows present on the later 1791 Estate Map. Part of the southern boundary of the Common matches those of later mapping including a small section of the northern bounds of Brislington Meadows.
- 1.15 Evidence for Parliamentary Enclosure of the area south of the Common was not found during a search of the Bristol and Somerset archives and it is likely that the area that includes Brislington Meadows was enclosed through piece-meal private agreement

⁵ Somerset Archives ref DD/GLd/3

and is therefore not formally recorded through maps or an enclosure award document. A review of the database “*The Enclosure Maps of England and Wales*”⁶ provides only a single search result for Brislington, which relates to the 1778 Enclosure of Brislington Common.

1791 Estate Map (Figure G7507.43.004)

*Plan of an Estate in the Parish of Brislington in the County of Somerset, The Property of William Gore Langton Esq, Surveyed by Benjamin Pryce 1791.*⁷

- 1.16 This is the earliest available map showing the land parcels within the Brislington Meadows site. It comprises a map of the property of William Gore Langton and is accompanied by a survey book providing a written record of plot names, occupiers, occupation status and measures.
- 1.17 The map encompasses the majority of the land within the Brislington Meadows site except for the westernmost parcels, formerly allotments. The map shows several of the hedgerows which are presently extant and also shows land parcels and boundaries which are no longer present. All of the land parcels which make up the current Brislington Meadows site have their occupier listed as Thomas Harvill or Sarah Goby. At the eastern edge of the Brislington Meadows site are shown two farmsteads described as farmhouse, house, buildings, yards and gardens, which were occupied by Harvill and Goby, demonstrating that the land at Brislington Meadows was worked from these two farms.
- 1.18 The name of the plots provides some information as to their origin with the fields labelled as ‘Two Acre’, ‘Three Acre’, ‘Four Acre’ and ‘Five Acre’ demonstrating that these likely originated as a form of planned subdivision to define plots of specific acreage⁸. ‘The Hook’ may refer to land in a corner or bend in the hill, and ‘Blacker’s Wood’ may refer to soil blackened by fire, dark soil, or coal. ‘Pool Close’ may refer to a former pond in that field.

Tithe Map, 1846 (Figure G7507.43.005)

- 1.19 The 1846 Tithe Map⁹ demonstrates some changes in the arrangement of land parcels and removal of several boundaries to accommodate field agglomeration. At the north-east of Brislington Meadows two former parcels, ‘The Hook’ and ‘Two Acres’, and possibly a small piece of an adjoining plot ‘Sawpit Tining’ were merged to form a single field still called ‘Two Acres’, and the east boundary of ‘Pool Close’ was moved eastward to partly incorporate the west side of ‘The Hook’ which ceased to exist as a separate parcel. The western boundary of ‘Pool Close’ was also straightened, creating a distinct right-angle corner.
- 1.20 The two farms formerly occupied by Harvill and Goby had by this date become merged as a single farmstead which on later maps is referred to as ‘Emery’s Farm’.

⁶ [Enclosure Maps \(data-archive.ac.uk\)](http://data-archive.ac.uk)

⁷ Somerset Archives ref DD/GLd/4

⁸ Cavill, P, 2018, *A New Dictionary of English Field-Names*, English Place-Name Society

⁹ [Know Your Place - Bristol](http://www.bristol.gov.uk/know-your-place)

- 1.21 At the south of the site two parcels formerly named 'Little Blackers Wood' and 'Paddock' were merged into a single parcel called 'Paddock'.
- 1.22 The land later used for allotments, located at the west side of Brislington Meadows is not included in either the 1779 / 1780 Bustleton Common Enclosure maps or the 1791 Estate Map suggesting that it remained as waste ground during this period.

Archaeological Evidence

- 1.23 The application was supported by a programme of archaeological evaluation comprising an initial geophysical survey followed by trial trenching. The methodology for both surveys was established through dialogue and agreement with the Bristol City Archaeologist who monitored the works.
- 1.24 The geophysical survey¹⁰ was aimed at identifying any below-ground archaeological remains. The survey helped to identify a network of linear and rectilinear anomalies of archaeological origin in the south-western part of the site as well as various anomalies of uncertain origin.
- 1.25 The subsequent trial trench evaluation survey¹¹ was designed to investigate features identified by geophysics and test 'negative' areas. The survey confirmed that the linear and rectilinear features in the south part of the site were of Roman origin, likely dating to the 2nd and 4th century AD, and comprised a system of Roman enclosures of unknown function. An assemblage of glass beads of the same period was recovered from one of the features and suggests possible glass-making activity at the site. No finds or features post-dating the Roman period were recorded during these works.
- 1.26 The archaeological features did not appear to correlate with the current arrangement of hedgerow boundaries therefore no association or continuation of land use or land division between these periods can be demonstrated. The archaeological evidence does not indicate that the Roman features remained in use beyond that period and there is no evidence that they influenced the later hedgerow pattern.

¹⁰ Wessex Archaeology 2020, *Brislington Meadows, Brislington, Bristol, Detailed Gradiometer Survey Report*, report ref 239880.03, unpublished

¹¹ Cotswold Archaeology, 2022, *Brislington Meadows, Brislington, Bristol, Archaeological Evaluation*, report ref CR0810_1, unpublished

Historic Background / Documentary Evidence

- 1.27 The dominant method of farming during the medieval period “*was based on large fields, known as open fields, in which individual yeomen or tenant farms cultivated strips of land*”¹². Open fields were prevalent in the flatter and more arable central counties and the method of strip farming reflected communities’ shared use of ploughs and oxen teams. The process of enclosure began in the 14th to 17th centuries during which time landowners began to convert arable land for sheep farming¹³. The process of enclosure also came to be applied to areas of woodland, fen-land and commons. These enclosures were often carried out by means of private agreement and often do not leave archival evidence such as maps or award documents. It is possible that over half of all enclosures predate the Parliamentary Enclosures period.
- 1.28 Parliamentary enclosure can be defined as “*an enclosure carried out under the direct authority of an Act of Parliament*”¹⁴. The earliest Parliamentary Enclosure Act is dated to 1604 but it was not until the 18th century that the process became widely adopted and rapidly became the normal method of land enclosure in the English Midlands and subsequently spreading to other areas. During the earlier 18th century many of the Acts simply confirmed enclosures that had already taken place, however by the 1750s Acts of Parliament had become the principal means of initiating enclosures.
- 1.29 The parliamentary enclosure movement spanned a period of approximately 300 years and affected all four countries of the United Kingdom with the main area affected being England where around 5341 enclosure awards are recorded¹⁵. Parliamentary Enclosures may account for 6.8 million acres of land in England, resulting in 200,000 miles of hedgerow¹⁶. It is estimated that between 1750 and 1850 some 28,000km² of land was affected by enclosure acts, often consisting of hawthorn hedgerows to form a physical boundary to demarcate ownership.
- 1.30 Bristol Archive includes an 1870 copy by Edwin Fox of an earlier manuscript by Mr Clayfield Ireland entitled “*Account of the parish manor and common of Brislington*”¹⁷. This manuscript provides the following information about the ownership of the manor of Brislington between the 17th and 18th centuries:
- 1.31 In the year 1640 Sir John Lacy of Shipton was lord of the manor of Brislington. The Manor was purchased in the 1670s from the Lacy family by Sir Thomas Langton, knight and alderman of Bristol. The manor passed through the hands of successive members of the Langton family until the death of Joseph Langton in 1778 at which time it was held by Bridget Langton who married Colonel William Gore who thereupon assumed the additional surname of Langton. Bridget Gore Langton died before 1800 and her husband held the manor of Brislington until his death in 1847.

¹² [Enclosing the land - UK Parliament](#)

¹³ Fairlie, S, 2009 “A Short History of Enclosure in Britain” in *The Land*, Issue 7

¹⁴ Chapman, J, 1992, *A Guide to Parliamentary Enclosures in Wales*, University of Wales Press

¹⁵ Ibid.

¹⁶ [A history of hedgerows - People's Trust for Endangered Species \(ptes.org\)](#)

¹⁷ Bristol Archive ref: P/StLB/HM/1/a

- 1.32 The area of Brislington Meadows was included as the property of William Gore Langton in the 1791 Estate Map (figure G7507.43.004) and likely formed part of the manor of Brislington held by the Langton family since the 1670s and Sir John Lacy prior to that. The process of enclosure of lands within the manor is not recorded and therefore no date can be attributed to the area of Brislington Meadows from available documentary evidence.

Conclusion

- 1.33 It can be demonstrated that the hedgerows HH1-HH9 have been present since at least 1791. The north-eastern extent of the site projects into the area enclosed in the 1778 and hedgerow boundary HH9 is visible on maps of that date. Based on available evidence, it is considered that the hedgerow pattern within Brislington Meadows arose by means of piece-meal private agreement during the post-medieval period, likely the 18th century, converting waste ground bordering the Common to more productive agricultural land. This took place during the general period of Parliamentary Enclosures but was not carried out under or subject to confirmation by an Act of Parliament.
- 1.34 With reference to criteria 5a of the Hedgerow Regulations it can be demonstrated that the hedgerows identified within the Brislington Meadows site predate the accepted terminus of 1845 required to satisfy this criterion and can be considered as 'important' under the Hedgerow Regulations 1997.

DEFRA Habitat Action Plans - Ancient & Species Rich Hedgerows

- 1.35 The Defra guidance note 'Habitat Action Plans - Ancient & Species Rich Hedgerows' defines 'Ancient hedgerow' as *Ancient Hedgerows (which tend to [be] the most biologically diverse in terms of both plants and animals) are defined as those that were in existence before the Enclosures Acts (mainly passed between 1720 and 1840)*¹⁸.
- 1.36 Ancient Woodland and "Ancient or Veteran Trees" have a specific status in NPPF as irreplaceable habitats. Ancient hedges are not mentioned by NPPF and do not have equivalent status. There is no known precedent for them to be regarded in the same light. The Defra note is management advice, rather than legislation, policy or policy guidance and is used for mainly ecological purposes.
- 1.37 The Defra guidance does not provide a clear definition for Enclosure Acts or provide a clear cut-off against which the test of "Ancient" can be applied. It is not known whether the 1845 terminus applied to criteria 5 of the Hedgerow Regulations 1997 is applicable to the Defra Ancient Hedgerows guidance. The author is not aware of any case studies where this has been applied in respect to Defra guidance.
- 1.38 Historic map evidence demonstrates the existence of hedgerows within the Brislington Meadows site since at least 1791 and small sections of the northern site boundary including HH9 may relate to boundaries seen on the 1779/1780 Enclosure Maps. These represent the earliest available documentary evidence at the local archives for the age of the hedgerow boundaries at the site.
- 1.39 Numerous Acts of Parliament relating to land enclosures were enacted during the Parliamentary Enclosure period which took place between the early 17th and later 19th century. Whilst the enclosures at Brislington Meadows were not subject to an Act of Parliament they are not considered to predate the Parliamentary Enclosure period.
- 1.40 In heritage terms the word 'ancient' implies a much earlier date than the Parliamentary Enclosure period and would suggest that the term as used by Defra is intended to encompass hedgerows that predate this period such as those that may relate to medieval or earlier landscape features or remnants of ancient woodland.
- 1.41 It is not considered that the hedgerows within the Brislington Meadows site meet the criteria of ancient as set out by Defra.

¹⁸ [Habitat Action Plans Summary - Ancient and/or species rich hedgerows \(everysite.co.uk\)](https://www.everysite.co.uk/habitat-action-plans-summary-ancient-and-or-species-rich-hedgerows)

2.0 Responses

Brislington Community Museum

Ridge and Furrow

- 2.1 Examination of Lidar information for the Brislington Meadows site reveals linear striations in the majority of the fields (Figure G7507.43.007). The Historic Environment Desk-Based Assessment considered whether these were evidence of ridge and furrow but considered this inconclusive. Possible upstanding remains in the area of former allotments were subsequently attributed to former allotment activity.
- 2.2 Comparison of Lidar information overlain on the 1791 Estate Map clearly demonstrates that the striations referred to as ridge and furrow do not respect the position of the field formerly known as 'Two Acres'. The northern boundary of this field was removed by the time of the 1846 tithe map and an adjacent field 'The Hook' was absorbed into the neighbouring field as part of the same process.
- 2.3 The striations in this area continue unchanged across the former field boundary of Two Acres thereby indicating that the process which created these striations post-dates the removal of that boundary. Further, 'Two Acres' was a narrow approximately east to west aligned plot; the striations however are aligned approximately north to south (i.e aligned with the short width of the former plot rather than down its length). If the field had been subject to ridge and furrow cultivation the expected direction of ploughing would be along the length of the field, approximately east to west.
- 2.4 The striations also continue into a former land plot identified as 'The Hook' on the 1791 Estate Map. As with 'Two Acres', the 'ridge and furrow' striations are aligned perpendicular to its narrow width rather than along the length of the northern arm of the plot.
- 2.5 The diagonal boundary which defines the south-eastern side of Broomhill Junior School cuts across the striations. It can therefore be concluded that the process that created the striations took place between the removal of 'Two Acres' and construction of the school in the modern period. An aerial view of the site dated to 1946 (G7507.43.006) shows this boundary not yet in place. This view also shows what appear to be machine tracks leading from Emery Farm at the east and through the site, thereby indicating some mechanised activity on the fields. Since the striations visible across the site have a very similar characteristic it is considered that they are likely of the same age and origin, and therefore post-date 1791 and are the result of 19th century to modern activity.
- 2.6 It should be noted also that in open-field cultivation systems ridge and furrow blocks would typically not be defined by hedgerows, therefore any hedgerows that might follow such a pattern would likely be of a later period and established following change of use of the site.
- 2.7 No above ground ridge and furrow remains were noted during a walkover survey of the site. Archaeological geophysical survey and trial trench evaluation carried out to

inform the heritage assessment did not identify any furrows or recover any finds from the medieval period.

- 2.8 It is considered that there is no substantive evidence that the site formed part of an open-field agricultural system or that ridge and furrow remains are present on the site or influenced the current hedgerow pattern. The striations are not considered evidence of historic ridge and furrow cultivation but are due to late post-medieval or modern activity.

Lynchets

- 2.9 The hedgerow boundaries referred to as 'Lynchets' on document (CD11.4 (b)) are visible as field boundaries on the 1791 Estate Map and historically defined the parcels named as 'Three Acres', 'Four Acres', and 'Five Acres' on that map. The naming convention for these fields has been assessed as indicating that the land was deliberately subdivided to form parcels of specific sizes. As discussed in this technical note it is considered likely that these fields date to the late 18th century and were created through private enclosure.
- 2.10 Examination of Lidar data and comparison with historic mapping demonstrates that the striations referred to as ridge and furrow do not respect known historic field boundaries and were likely formed by 19th and 20th century activity. Archaeological surveys did not identify any medieval features or recover finds of that period.
- 2.11 It is noted that the direction of striations in several of the fields such as 'Five Acres' and 'Pool Close', is aligned north to south rather than along the hill contour, therefore soil movement resulting from 19th century or modern machine movement should be across rather than down the slope.
- 2.12 A walkover survey of the Brislington Meadows site carried out in support of the desk-based assessment did not identify any ditches or banks associated with the hedgerows. The north-south topographic profile of the site shows a decline from c63m aOD to c50m aOD at the southern boundary; it is considered that the difference in ground level from the north to south sides of the hedgerows has resulted from natural erosive processes and water-borne soil movement downhill with the east-west hedgerows acting as a soil trap and accumulating soil over time. Late post-medieval and Modern mechanised activity demonstrated on Lidar has also likely contributed to this process. Prolonged and regular human footfall along footpaths is also likely to have eroded the ground surface and contributed to a difference in ground levels particularly along established footpaths.
- 2.13 The Historic Environment Record was reviewed as part of the desk-based assessment and does not include any record of lynchets for the study area. Archaeological surveys did reveal the presence of below-ground archaeological remains dating to the Roman period however there was no evidence of continuity with the hedgerows or that the archaeological remains influenced the pattern of later hedgerows.
- 2.14 Bristol City Council's Principal Historic Environment Officer was consulted as part of the initial works and subsequent archaeological surveys and did not raise concerns

regarding the topographic changes and whether these constitute archaeological features or that they have archaeological significance.

- 2.15 The objection notes differences in ground levels between the uphill and downhill sides of the east to west hedges. It does not attribute this to deliberate human activity rather to a combination of ploughing and natural soil erosion and deposition, noting that these 'lynchets' could date to the 20th century. This technical note agrees that the difference in soil height likely results from natural processes but does not assign an origin earlier than the 18th century to these hedgerows. This technical note argues that there is no substantive evidence for ridge and furrow cultivation on the site and any ploughing was likely carried out in the 19th and 20th centuries.
- 2.16 It is therefore considered that there is no substantive evidence that the hedgerows pre-date the 18th century, or that the features referred to 'lynchets' are of archaeological significance.

Arboricultural Comment

- 2.17 The arboricultural officer recognises that the Historic Environment Desk-Based Assessment submitted in support of the application assessed hedgerows within the site as 'important' in accordance with the Hedgerow Regulations 1997. The response also suggests that there is evidence for ditch and bank planting system and ridge and furrow within the site which is considered evidence that the hedgerows may be ancient.

TEP response

- 2.18 The hedgerows identified as HH1-HH9 within the Brislington Meadows site are considered to meet criteria 5a of the Hedgerow Regulations 1997 and are therefore considered as "important". The habitat value of the hedgerows is not considered as part of a historic environment assessment (para 1.5).
- 2.19 Historic research supported by archaeological surveys does not support the conclusion that ridge and furrow remains or ditches and banks are present on site or that the field pattern is derived from a former open-field cultivation system.

Landscape Comment

- 2.20 The landscape officer states that the hedgerows can be defined as 'Ancient hedgerows' and considers them to therefore constitute irreplaceable natural assets that create the field pattern landscape character.

TEP Response

- 2.21 The hedgerows within the Brislington Meadows site are considered to meet criteria 5a of the Hedgerow Regulations 1997 and are therefore considered as "important". This assessment does not consider the value of hedgerows as natural assets.
- 2.22 It is considered that there is no substantive evidence that the hedgerows pre-date the Parliamentary Enclosure period and as such they are not considered to meet Defra's criteria of 'ancient' (para 1.42).

Ecology Comment

- 2.23 The ecology officer notes that the hedgerows have been identified as important within the Historic Environment Desk-Based Assessment. Further, that the hedgerows are demonstrably important landscape features and support high-level biodiversity.

TEP Comment

- 2.24 The hedgerows within the Brislington Meadows site are considered to meet criteria 5a of the Hedgerow Regulations 1997 and are therefore considered as “important”. The biodiversity and habitat value of the hedgerows is not considered as part of a heritage assessment and have been assessed in separate reports (para 1.5).

Bristol Tree Forum

- 2.25 The Bristol Tree Forum references the Historic Environment Desk-Based Assessment report and states that the site was enclosed in the 18th century and that the site contains evidence for remains of ridge and furrow cultivation.
- 2.26 It can be demonstrated that the hedgerows labelled HH1-HH7 in the desk-based assessment (TEP 2020) and HH8 and HH9 in this Technical Note have been present since at least 1791 and can be considered as ‘important’ under the Hedgerow Regulations 1997.
- 2.27 It is considered likely that that the hedgerow pattern within Brislington Meadows arose by means of private agreement during the post-medieval period, likely the 18th century. Appendix 2 of the Bristol Tree Forum comments agrees with the assessment that the hedgerows likely date to the 18th century: *“it is reasonable to assume that the hedgerows are around 250 years old, and may be a century older”*.
- 2.28 Appendix 3 of the Bristol Tree Forum comments suggests that the east to west hedgerows may originate as ‘lynchets’ (terrace features resulting from ploughing). The Historic Environment Record for Bristol does not record such features on the site or within the wider study area. Consultation with the City Council’s Archaeological Officer did not highlight the possible existence of such features and no evidence for them was identified through archaeological fieldwork undertaken in support of the project.
- 2.29 Appendix 10 references LiDAR evidence for possible ridge and furrow remains within the site and whether these provide evidence for open field cultivation. Historic research supported by archaeological surveys does not support the conclusion that ridge and furrow remains are present on site or that the field pattern is derived from a former open-field cultivation system.

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Legislation and Policy

Hedgerow Regulations 1997

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Data Sources

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Wessex Archaeology, 2021, *Brislington Meadows, Brislington, Bristol: Detailed Gradiometer Survey Report*, Wessex Archaeology, Report ref 239880.03

Kain, J P, Chapman, J, Oliver, R, 2022, *The Enclosure Maps of England and Wales, 1595-1918*, [Enclosure Maps \(data-archive.ac.uk\)](https://data-archive.ac.uk)

3.0 Supporting figures

G7507.43.002 – Historic Field Boundaries

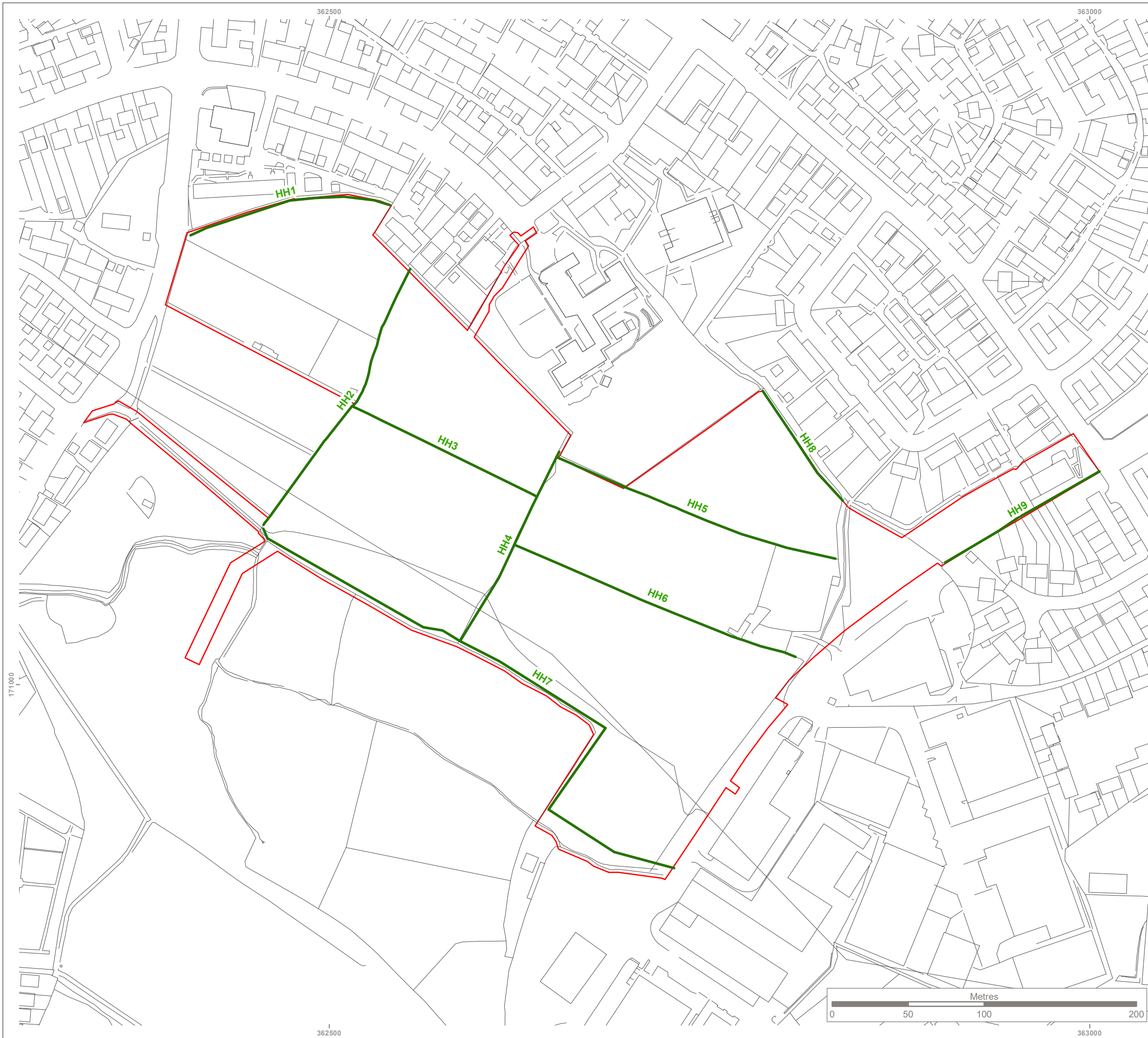
G7507.43.003 – 1779 Enclosure Map of Brislington Common

G7507.43.004 – 1791 Estate Map

G7507.43.005 – 1846 Tithe Map

G7507.43.006 – 1946 Aerial Imagery

G7507.43.007 – Lidar Data



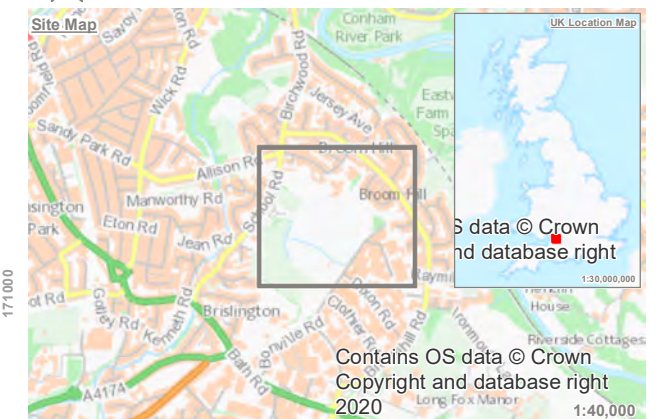
KEY

- Proposed development site
- Historic field boundaries

This drawing shows the location of existing hedges and lines of vegetation matching field boundaries shown on 1840s Tithe maps and earlier estate and enclosure maps



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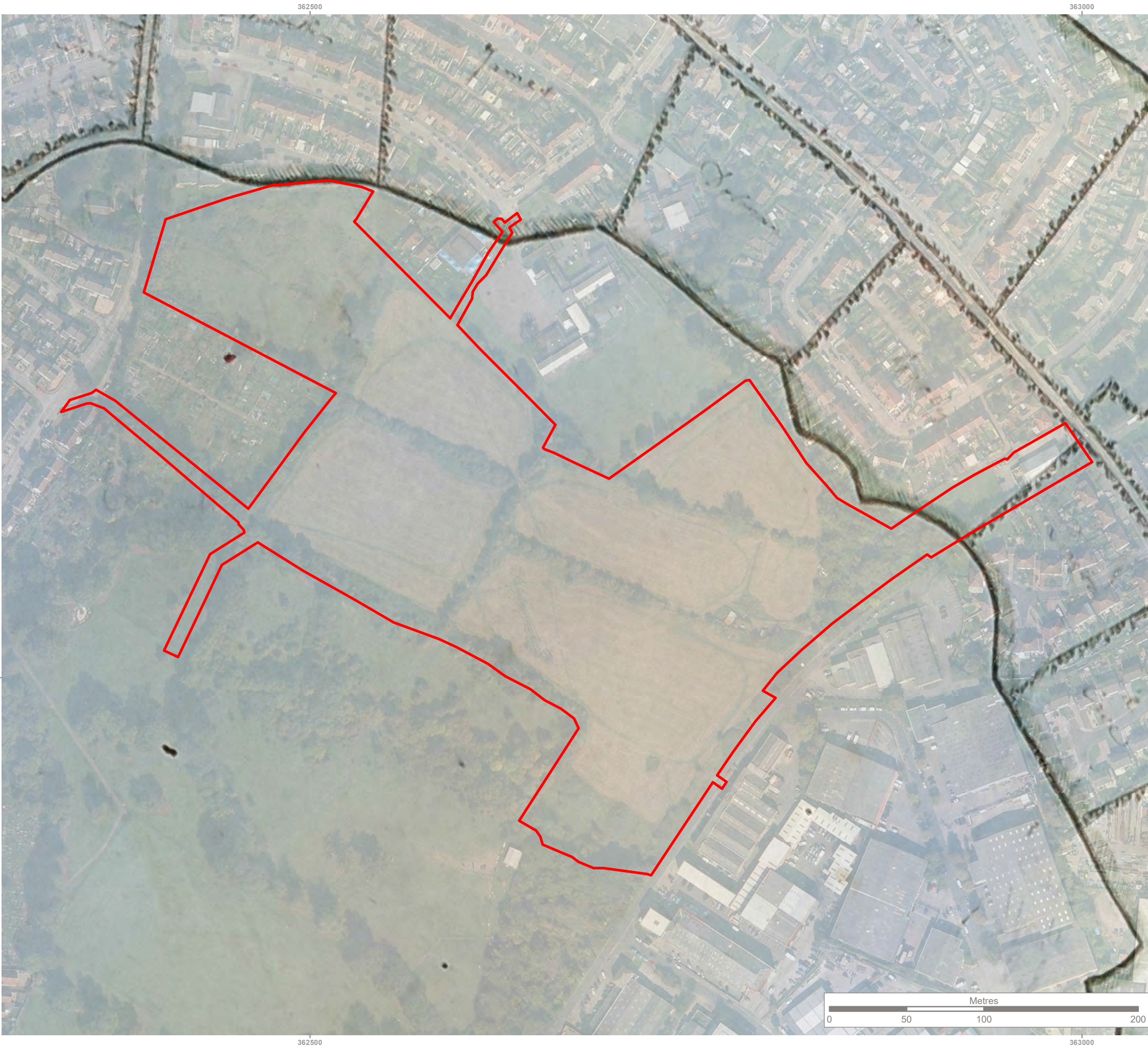
THE ENVIRONMENT PARTNERSHIP
The Reynard Suite - First Floor Offices,
Bowden Inn Farm, Market Harborough, LE16 7SA
Tel 01858 353120 e-mail tep@tep.uk.com www.tep.uk.com

Project
Brislington Meadows, Bristol

Title
Historic Field Boundaries

Drawing Number
G7507.43.002

Drawn	Checked	Approved	Scale	Date
AB	SA	JC	1:2,500 @ A3	09/12/2022



KEY

Proposed development site

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Somerset Archives ref DD/GLd/3



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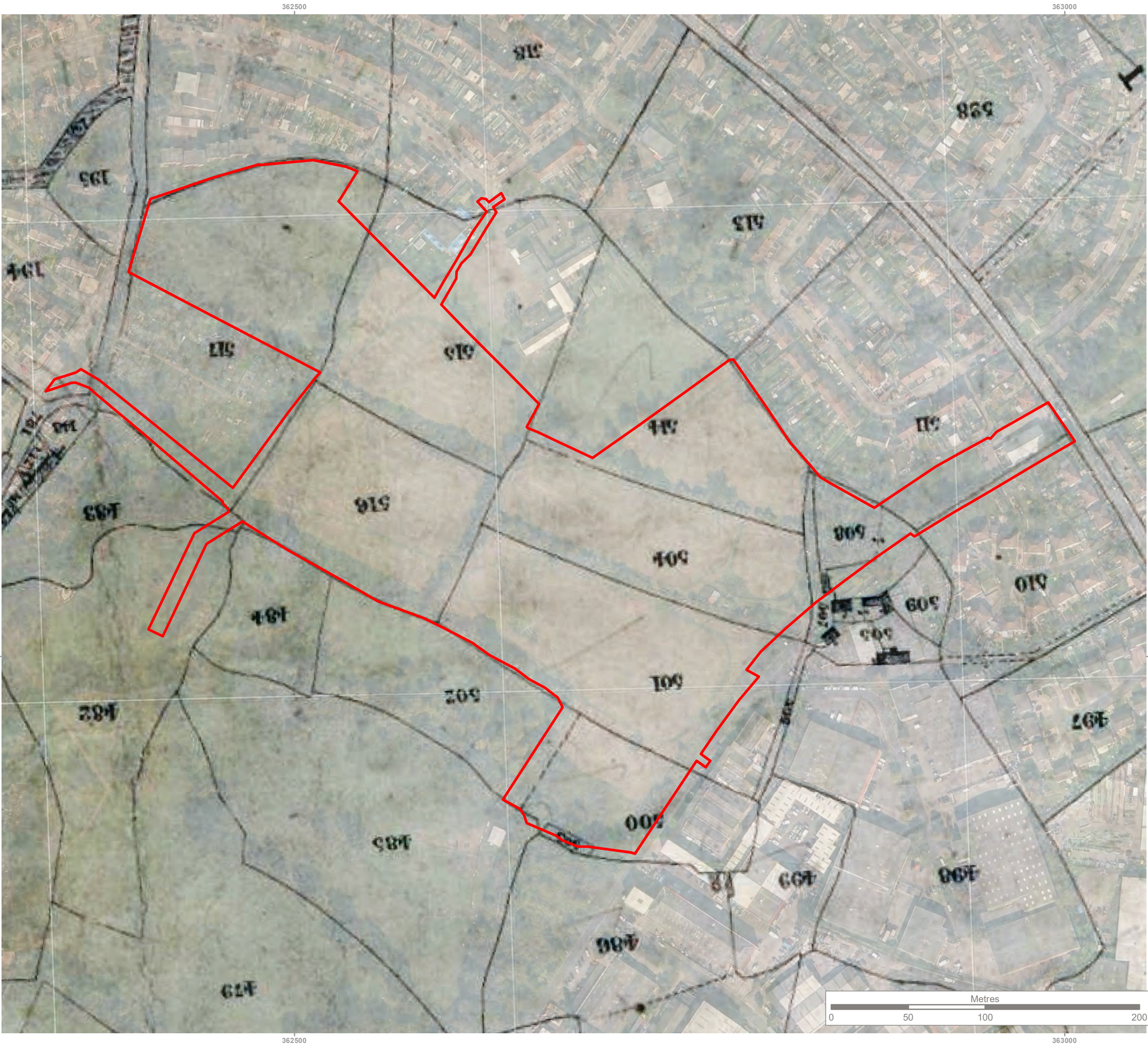
The Reynard Suite - First Floor Offices,
Bowden Inn Farm, Market Harborough, LE16 7SA
Tel 01858 353120 e-mail tep@tep.uk.com www.tep.uk.com

Project
Brislington Meadows, Bristol

Title
1779 Enclosure Map of Brislington Common

Drawing Number
G7507.43.003

Drawn	Checked	Approved	Scale	Date
AB	CB	JC	1:2,500 @ A3	08/12/2022



KEY

Proposed development site

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Bowden Inn Farm, Market Harborough, LE16 7SA
Tel 01858 353120 e-mail tep@tep.uk.com www.tep.uk.com

Project
Brislington Meadows, Bristol

Title
1846 Tithe Map

Drawing Number
G7507.43.005

Drawn	Checked	Approved	Scale	Date
AB	CB	JC	1:2,500 @ A3	08/12/2022



KEY

- Proposed development site
- Former 1791 field boundary

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Bowden Inn Farm, Market Harborough, LE16 7SA
Tel 01858 353120 e-mail tep@tep.uk.com www.tep.uk.com

Project
Brislington Meadows, Bristol

Title
Lidar data

Drawing Number
G7507.43.007

Drawn	Checked	Approved	Scale	Date
AB	CB	JC	1:2,500 @ A3	16/12/2022

Appendix E

Arboricultural Method Statement (Points of Access)



BRISLINGTON MEADOWS, BRISTOL [ACCESS POINTS]

ARBORICULTURAL METHOD STATEMENT

VERSION 1.0, DECEMBER 2022

TEP
Genesis Centre
Birchwood Science Park
Warrington
WA3 7BH

Tel: 01925 844004
Email: tep@tep.uk.com
www.tep.uk.com

Offices in Warrington, Market Harborough, Gateshead, London and Cornwall

Document Control

Document Title	Arboricultural Method Statement
Prepared for	Homes England
Prepared by	The Environment Partnership (TEP) Ltd
Document Ref.	7507.43.100
Date	December 2022
Author	Angus Blankenstein
Checked	Francis Hesketh
Approved	Francis Hesketh

Amendment History					
Version	Date	Modified by	Approved by	Reason(s) for issue	Status
0.1	08/12/2022	AAB	FH	Checking	Draft
1.0	09/12/2022	AAB	FH	Approval	Final

Schedule of Document Amendments	
Version	Description of Amendments

Arboricultural Method Statement
Scope

- 1.1. TEP has been commissioned by Homes England to produce a Tree Protection Scheme in the form of an Arboricultural Method Statement (AMS) for part of the Brislington Meadows site in accordance with BS5837:2012 Trees in relation to design, demolition and construction - Recommendations.
- 1.2. This AMS covers two separate areas: the main vehicular access from Broomhill Road and pedestrian and cycle access into the site from School Road. The purpose of this document is to provide details of tree protection in response to a request from Bristol City Council's Tree Officer. Although the planning application is in outline, the Tree Officer requires information about protection measures proposed in these two areas.
- 1.3. No specific planning conditions were available at the time of producing this AMS, however it is assumed that this document will either provide sufficient detail to discharge a planning condition relating to tree protection or this document will be updated suitably in order to allow the condition to be discharged.

Limitations

- 1.4. Where features were not shown on the topographical survey tree locations are approximate and are based on on-site observations, aerial photography and other base mapping.
- 1.5. No detailed proposals for the continuation of the access road or the cycleway into the site were available, consequently impacts and protection have been designed using the alignment shown on the Illustrative Masterplan. Impacts and protection measures are shown in principle and can be updated to reflect more detailed proposals when available

Brislington Meadows, Bristol [Access Points]

Arboricultural Method Statement

AMS Overview and Operation Sign-Off

This document comprises 3 separate Method Statements together with supporting plans.

1. *Tree and Hedgerow Protection*
2. *Above Ground Construction*
3. *Supervised Surface Removal and Root Pruning*

The detail and requirements of these Method Statements must inform the production of all relevant tender documents and instructions to contractors.

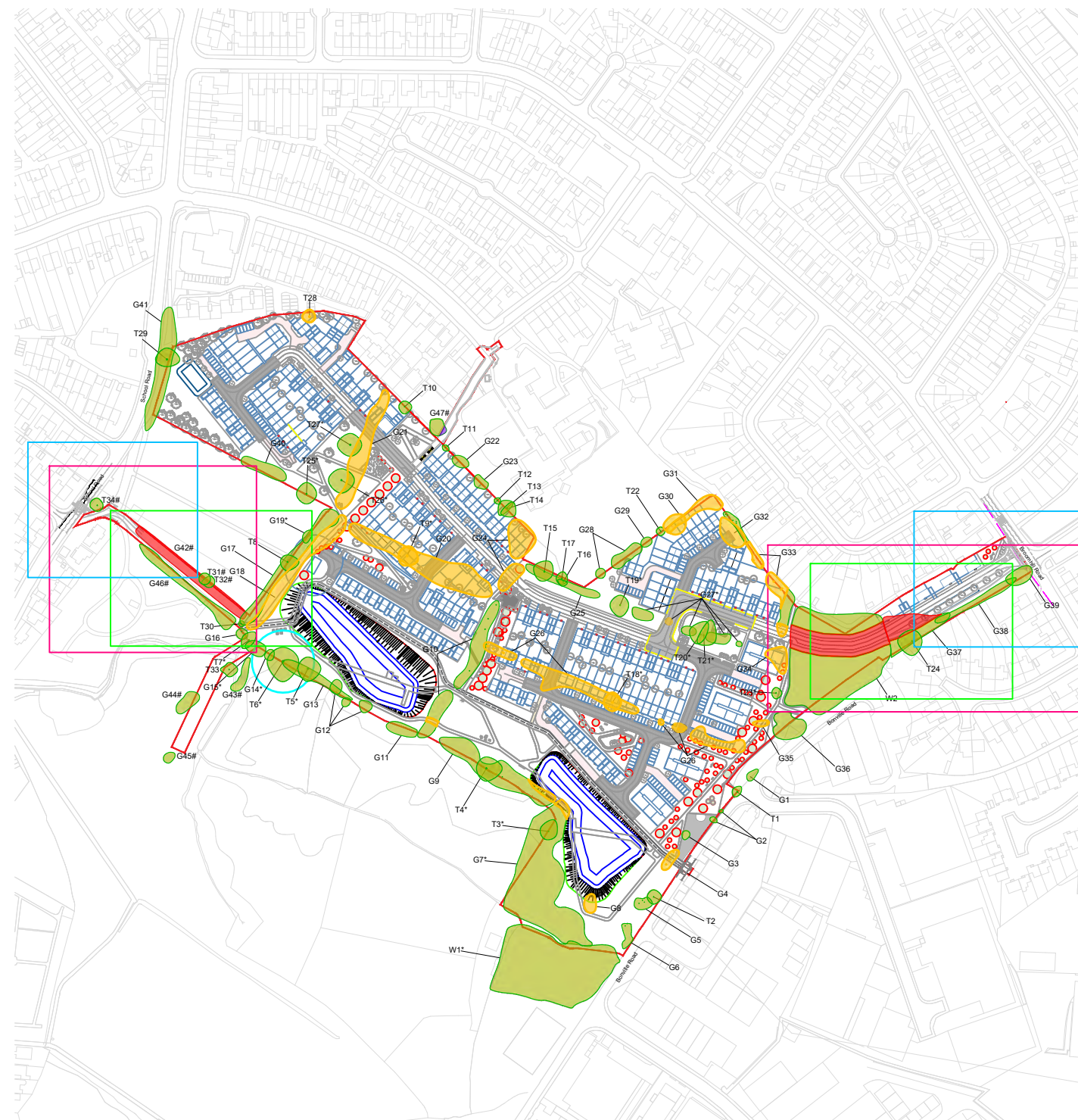
Failure to adhere to the correct sequence, manner and timing of operations detailed below may result in irremediable damage to trees, and thereby breach of planning consent. All retained trees are protected and damage or removal could result in a stop notice or prosecution.

GENERAL TERMS

- A. This document should be reproduced in its entirety, in colour and at A3 size.
- B. The Site Manager will read and understand this Method Statement. It will be the responsibility of the Site Manager to ensure compliance with this Method Statement.
- C. A copy of this Method Statement will be made available for inspection on site and introduced to all relevant contractors.
- D. An Arboricultural Contractor will be appointed to undertake the removal of trees.
- E. An Arboricultural Consultant will be appointed to supervise activities as specified by this document. They must be provided with contact details for the site manager and notified of the date of commencement of works.
- F. All areas that are protected by Tree Protection Fencing or ground protection will be collectively defined as a **Construction Exclusion Zone (CEZ)**. Access, works or storage within the CEZ will be prohibited unless specified by this AMS.
- G. If unexpected large roots (>25mm diameter) are encountered or if additional pruning is required the arboricultural consultant will be contacted.
- H. The Site Manager will be responsible for contacting the Arboricultural Consultant as required by this AMS or any requirement to enter a protected area arises.
- I. Each of the elements within this Method Statement will be signed-off by the arboricultural consultant in the Operations Sign-off inset on this sheet. A copy will be retained by the Site Manager and the Arboricultural Consultant.
- J. It will also be the responsibility of the appointed Arboricultural Consultant to undertake inspections not less than every two months to ensure compliance with the approved protection scheme. Any deviation from the approved scheme will be recorded opposite and reported to the Site Manager and Local Planning Authority Tree Officer.







OVERVIEW OF OPERATIONS

1. APPOINTMENT OF ARBORICULTURAL CONSULTANT
2. APPOINTMENT OF ARBORICULTURAL CONTRACTOR
3. TREE AND HEDGEROW WORKS
4. SIGN OFF BY ARBORICULTURAL CONSULTANT
5. SETTING OUT OF TREE AND HEDGE FENCING AND GROUND PROTECTION
6. INSTALLATION OF TREE AND HEDGE PROTECTION FENCING
7. SIGN OFF BY ARBORICULTURAL CONSULTANT
8. SUPERVISED SURFACE REMOVAL AND ROOT PRUNING
9. SIGN OFF BY ARBORICULTURAL CONSULTANT
10. COMPLETION OF ALL CONSTRUCTION WORKS
11. REMOVAL OF ALL PLANT, VEHICLES AND MATERIALS FROM SITE
12. REMOVAL OF ALL TREE PROTECTION MEASURES





KEY







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- 

 Trees, Groups and Woodlands

 Site Boundary

 Tree Works Insets

 Above Ground Construction Insets

 Supervised Excavation Insets

Trees to be retained

-   Tree cover to be retained

Proposed tree works

-   Trees to be removed
-   Trees to be pruned
-   Trees in conflict with Masterplan



Rev	Description	Drawn	Approved	Date
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Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project

Brislington Meadows, Bristol [Access Points]

Arboricultural Method Statement

Title

AMS Overview and Operation Sign-off

Drawing Number

D7507.43.100

Drawn AAB	Checked FH	Approved FH	Scale 1:10,000 @ A3	Date 09/12/2022
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Arboricultural Consultant:

Telephone: | Email:

Tree and Hedgerow Protection

Date: Initials:

Above Ground Construction

Date: Initials:

Root Pruning and Supervised Surface Removal

Date: Initials:

The above Method Statement elements have been discharged in full to the best of my knowledge and professional assessment. Where there has been any deviation from the specification, I am satisfied that this has not been injurious to retained trees and that all such deviations have complied with the spirit of the instruction insofar as was reasonably practicable or were approved in advance by the proper authority.

Signed:

.....

Notes:

[illegible]



KEY
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T1/G1/W1

Retained Tree Cover

Root Protection Area (RPA)

Tree and Hedgerow Protection Measures

Tree Protection Fencing

NOTE: All tree and hedgerow protection measures must be installed prior to commencement of any works.

Brislington Meadows, Bristol [Access Points]

Arboricultural Method Statement

Tree and Hedgerow Protection

The installation of physical tree protection measures must be completed before commencement of the construction phase, including the creation of compounds, access by vehicles or plant, delivery of materials, ground investigations or works, or any other construction works. All tree protection must be retained throughout construction and not modified in any way or removed except in strict compliance with this method statement.

The detail and requirements of this Method Statement must inform the production of all relevant tender documents and instructions to contractors.

This AMS must be read in conjunction with the following drawings:

- D7507.43.100 AMS Overview and Operation Sign-off
- TEP.ARB.FEN.001 Temporary Tree Protection Fencing - Soft Surfaces

TREE PROTECTION MEASURES

- Following the completion and sign-off of tree works, the Site Manager will arrange protection measures to be installed, starting with tree protection fencing.
- The alignment of HERAS fencing, shown as a **thick dark blue line** above and on D7507.43.101 will be set out by a topographical surveyor using wooden pegs. This **must be done accurately** to ensure that tree protection does not obstruct construction. This may require the overlapping of fence panels in some areas of avoid obstruction.
- A CAD version of the tree protection measures can be provided by TEP as required.
- A contractor will be engaged to install the tree protection.
- Fencing will be installed according to the specification (ref: **TEP.ARB.FEN.001**) shown in **Appendix B**. A large pdf of the sign to be laminated and affixed to alternate panels is

also appended to this document.

- Tree protection will remain in situ for the duration of the construction and will not be moved unless at the instruction of the Arboricultural Consultant or as detailed within this document.
- The installation and maintenance of all tree protection measures according to this Method Statement will be verified by the appointed Arboricultural Consultant prior to commencement of construction works.
- Tree protection measures will be subject to inspection by the appointed Arboricultural Consultant not less than every two months. It will be the responsibility of the Arboricultural Consultant to report their findings to the Site Manager and Local Planning Authority.



Rev	Description	Drawn	Approved	Date
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TEP

THE

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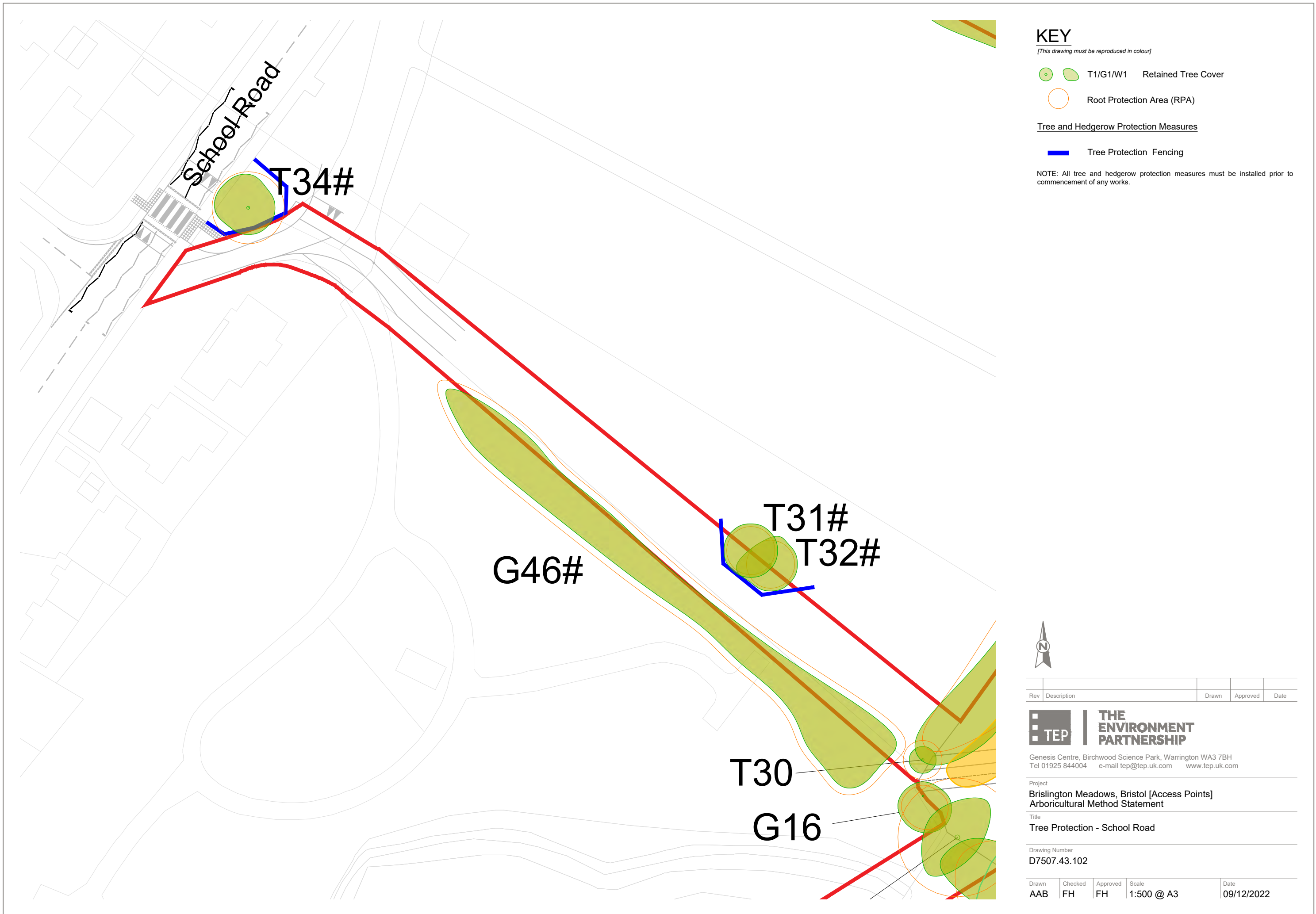
PARTNERSHIP

Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project
Brislington Meadows, Bristol [Access Points] Arboricultural Method Statement
Title
Tree Protection - Broomhill Road

Drawing Number
D7505.43.101

Drawn	Checked	Approved	Scale	Date
AAB	FH	FH	1:750 @ A3	09/12/2022



KEY

[This drawing must be reproduced in colour]

- T1/G1/W1 Retained Tree Cover
- Root Protection Area (RPA)

Tree and Hedgerow Protection Measures

- Tree Protection Fencing

NOTE: All tree and hedgerow protection measures must be installed prior to commencement of any works.



Rev	Description	Drawn	Approved	Date
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Project
Brislington Meadows, Bristol [Access Points]
Arboricultural Method Statement
Title
Tree Protection - School Road

Drawn	Checked	Approved	Scale	Date
AAB	FH	FH	1:500 @ A3	09/12/2022

Brislington Meadows, Bristol [Access Points]
Arboricultural Method Statement

Above Ground Construction

New pedestrian and cycle access is proposed which will cross the rooting area of retained trees. In order to protect roots and ensure retention of these trees, the surfaces must be constructed using above ground 'no-dig' construction.

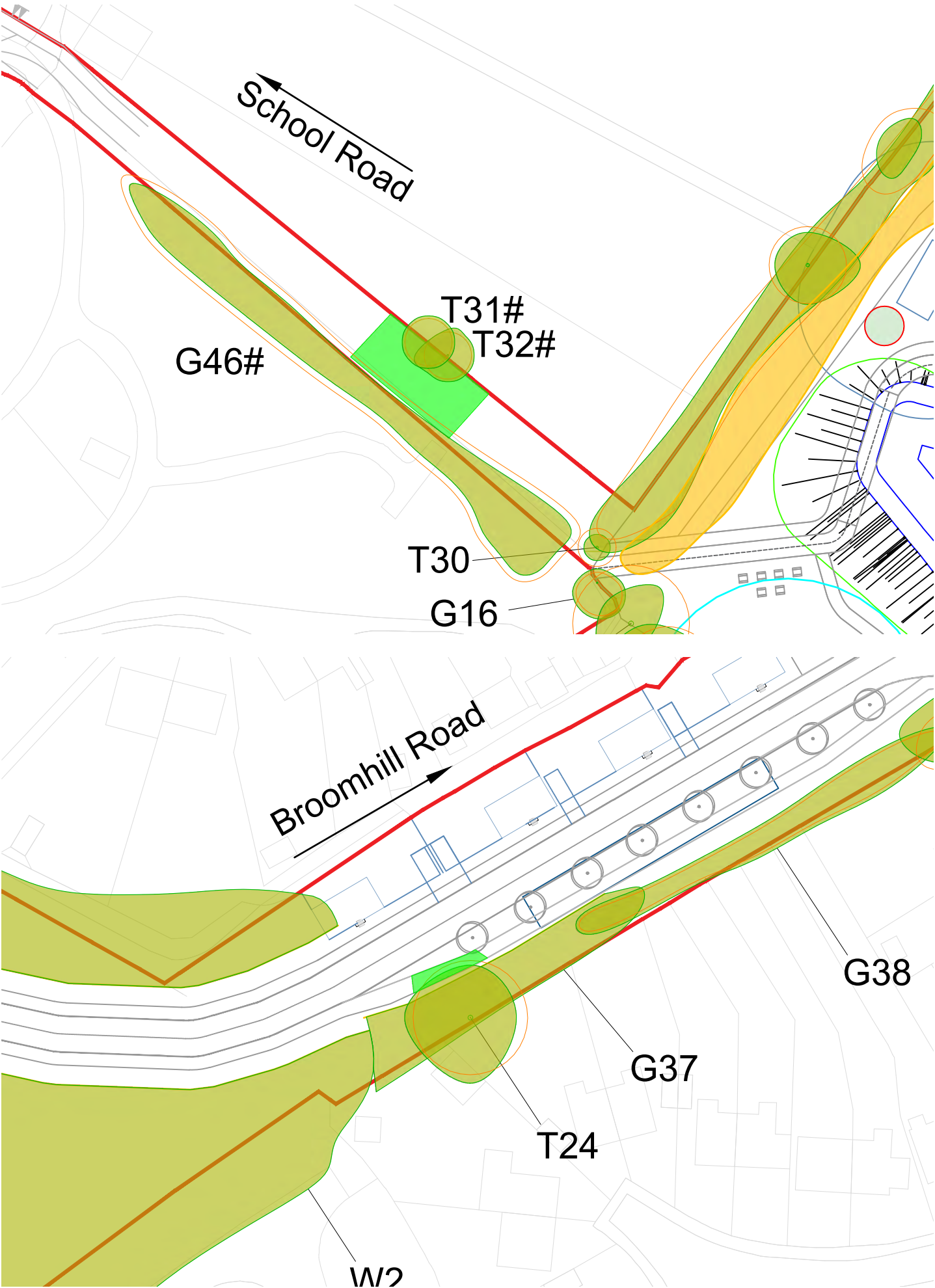
The detail and requirements of this Method Statement must inform the production of all relevant tender documents and instructions to contractors.

This AMS must be read in conjunction with the following drawings:

- D7507.43.100 AMS Overview and Operation Sign-off
- D7507.43.101-102 Tree and Hedgerow Protection Sheets 1 to 4
- TEP.ARB.CCS.004 No-dig CCS Indicative Specification

ABOVE GROUND CONSTRUCTION

1. Once tree protection fencing has been installed the Site Manager will arrange for the installation of above ground construction at locations shown with a **solid green hatch** on the plan opposite.
2. The extents of the above ground construction shown are indicative and the on-site construction of this element may differ due to the nature of the product used. The design of the paths using above ground construction must be verified by an engineer prior to installation.
3. The paths will be constructed above ground level, on top of the existing soil with no underlying stone sub-base.
4. Where required, a vegetation and levelling scrape to a maximum depth of 50mm will take place. This will be done using hand tools only. No other penetration of disturbance of the existing ground level will be allowed.
5. Staked edging or pin kerbs will be used to retain the path edges.
6. A geotextile membrane will be laid within the timber edging. A blinding or levelling layer of up to 50mm of washed sharp sand (no salt) may be laid on top of the membrane as necessary to infill minor undulations.
7. An above ground cellular confinement system (CCS) product (e.g. Geosynthetics Cellweb or similar) will then be installed on top of the membrane/levelling sand layer and secured to the ground as per the manufacturers instructions.
8. The CCS product will then be infilled with 4-20mm clean crushed aggregate (no fines) as close to the top of the edging without causing the aggregate to spill over.
9. The aggregate will be settled using a walk-behind vibratory plate compactor.
10. The final wearing course will need to
11. The above ground construction bellmouth will be designed to tie in with existing levels and surfaces off the existing road at the southern end and the field at the northern end where plant and vehicles will access the bellmouth.
12. An indicative specification for above ground construction (ref: [TEP.ARB.CCS.004](#)) is shown in [Appendix B](#).
13. The completion of the above ground construction according to this Method Statement will be verified and signed off by the appointed Arboricultural Consultant.



KEY

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- T1/G1/W1 Retained Tree Cover
- Root Protection Area (RPA)

Tree and Hedgerow Protection Measures

- Above Ground Construction
(Must be installed prior to works commencement)



Rev	Description	Drawn	Approved	Date
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Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project
Brislington Meadows, Bristol [Access Points]
Arboricultural Method Statement
Title
Above Ground Construction

Drawing Number
D7507.43.103

Drawn	Checked	Approved	Scale	Date
AAB	FH	FH	1:750 @ A3	09/12/2022

Brislington Meadows, Bristol - Access Points
Arboricultural Method Statement

Root Pruning and Supervised Surface Removal and Replacement

The removal and resurfacing of existing hard surfacing adjacent to T34 and construction of the new vehicular access adjacent to G39 has the potential to affect the Root Protection Areas (RPAs) of retained trees. An arboricultural watching brief is therefore required in these areas due to increased likelihood of tree roots and therefore sensitivity. The watching brief must be performed by an Arboricultural Consultant.

The detail and requirements of this Method Statement must inform the production of all relevant tender documents and instructions to contractors.

This AMS must be read in conjunction with the following drawings:

- D7507.43.100 AMS Overview and Operation Sign-off
- D7507.43.101-102 Tree Protection
- TEP.ARB.EXC.001 Excavation - Watching Brief Root Pruning Specification

SUPERVISED SURFACE REMOVAL AND RESURFACING

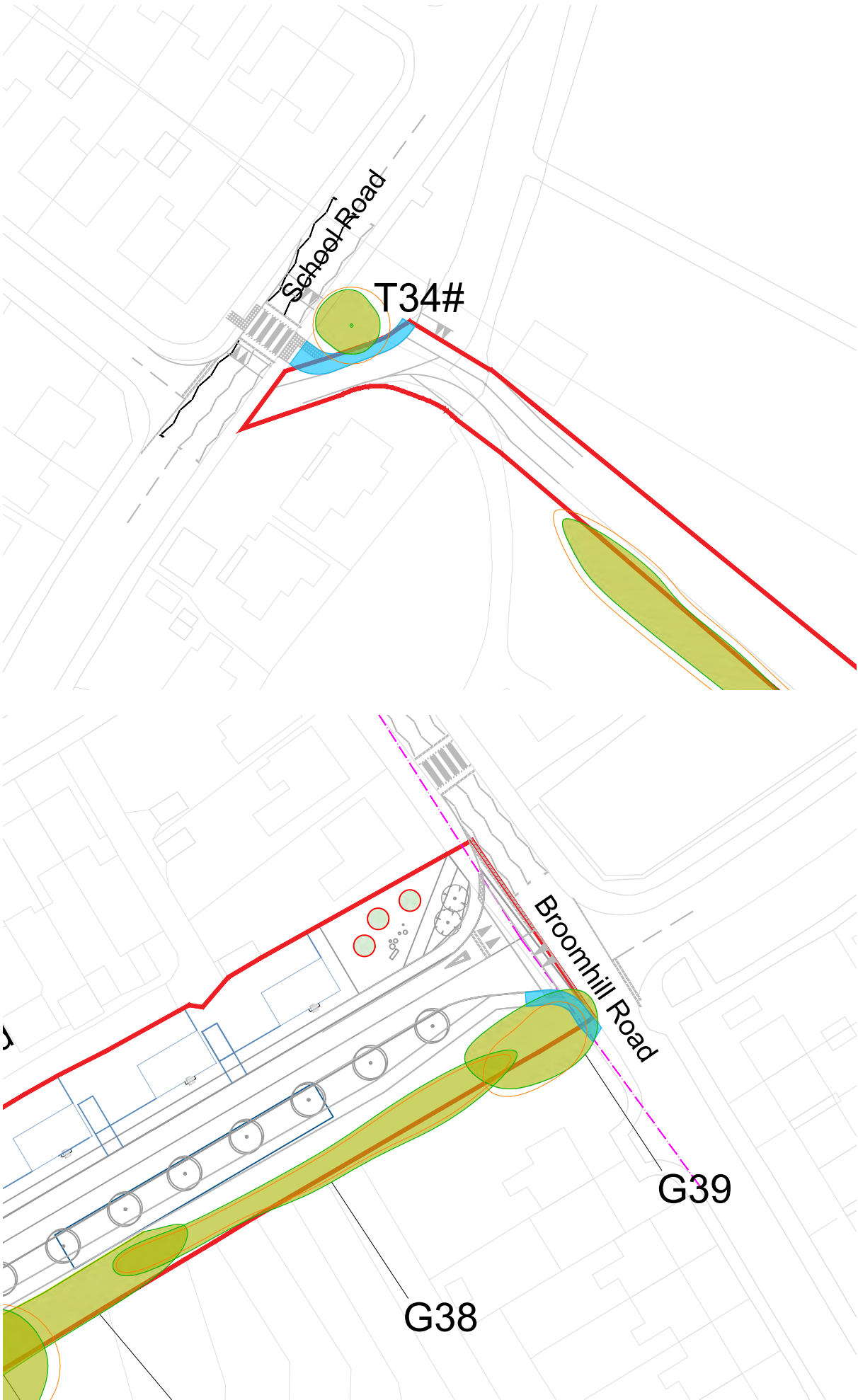
1. Once the build programme has been drafted, the Site Manager will arrange a date with the Arboricultural Consultant to supervise the removal of the existing hard surface and preparation for the new footpath and for preparation of the proposed new access road as shown opposite with a solid light blue hatch.
2. The existing wearing course of the existing road will be scored with a disc cutter to a maximum depth of 50mm. The scored tarmac will then be removed in layers by scraping with a non-toothed excavation bucket. The existing sub-base will remain in-situ. Should the existing sub-base require replacement, it may be removed with a non-toothed excavator bucket in layers but must not be dug any deeper than existing.
3. Should any roots be found during surface removal, the supervising Arboricultural Consultant will make on-site management recommendations regarding the root retention or root pruning. Should a significant amount of major roots be found, it may be necessary to agree additional measures with the LPA.
4. Any root pruning that is necessary should be completed as per the methodology detailed below and immediately following surface removal.

SUPERVISED EXCAVATION

5. Where the proposed new access ties into the existing footway on Broomhill Road there is potential for existing roots of trees within group G39 to be present. Therefore supervised excavation will take place in this area to identify their spread.
6. Should any roots be found during surface removal, the supervising Arboricultural Consultant will make on-site management recommendations regarding the root retention or root pruning. Should a significant amount of major roots be found, it may be necessary to agree additional measures with the LPA*.
7. Any root pruning that is necessary should be completed as per the methodology detailed below and immediately following surface removal.

ROOT PRUNING

8. Root pruning may not take place during or immediately following heavy rain.
9. The Arboricultural Consultant will monitor the level and likelihood of potential root loss and make a on-site management recommendations according to the following findings:
 - No roots - Continue without constraint
 - Minor roots (1-10mm diameter) - Continue to monitor
 - Moderate roots (11-24mm diameter) - Prune roots neatly
 - Major roots (25mm diameter and above) - On-site recommendations by Arboricultural Consultant**Where major roots are found, it may be necessary to agree additional measures with the LPA before works proceed. The presence of several major roots may necessitate additional tree removal.
10. Where roots are encountered, they will be severed neatly at the trench face using a sharp spade, bypass secateurs or a pruning saw as appropriate.
11. A photographic record of the number, location and diameter size of roots will be maintained by the Arboricultural Consultant for inspection by the Local Planning Authority.
12. The completion of the root pruning and supervised surface removal according to this Method Statement must be verified by the Arboricultural Consultant.
13. An indicative specification for root pruning (ref: TEP.ARB.EXC.001) is shown in Appendix B.



KEY

[This drawing must be reproduced in colour]

- T1/G1/W1 Retained Tree Cover

Special Construction Methodology

- Supervised Surface Removal



Rev	Description	Drawn	Approved	Date
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Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project
Brislington Meadows, Bristol [Access Points] Arboricultural Method Statement
Title
Supervised Surface Removal and Root Pruning

Drawing Number
D7507.43.104

Drawn	Checked	Approved	Scale	Date
AAB	FH	FH	1:750 @ A3	09/12/2022

APPENDIX A: Specification Drawings



ATTENTION

**TREE PROTECTION AREA
KEEP OUT!**

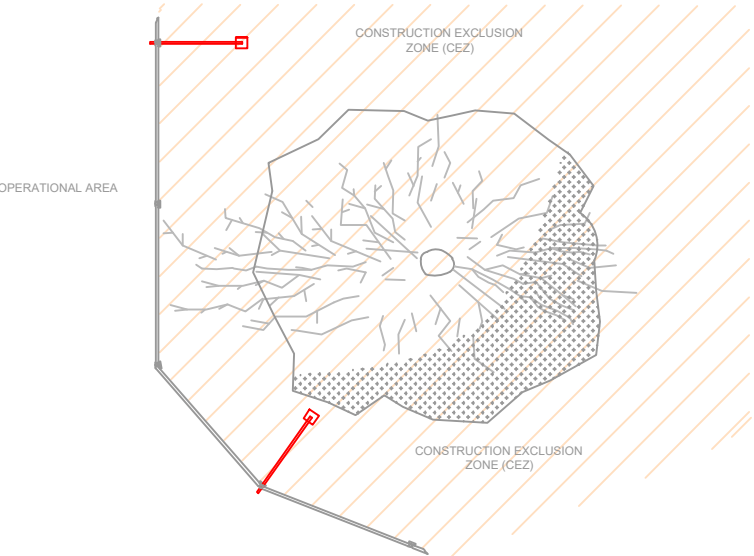
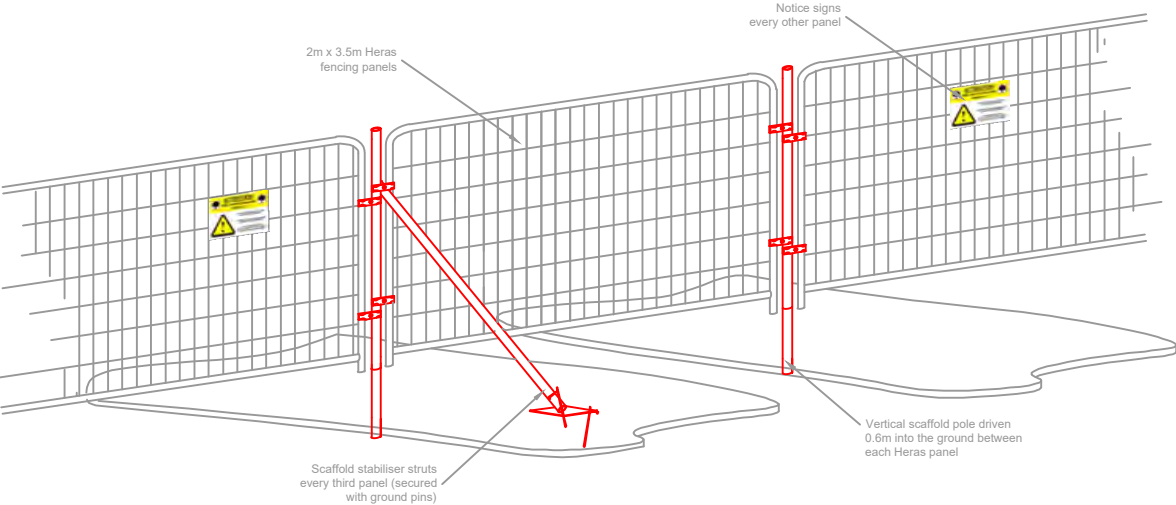


**YOU MAY NOT ENTER THIS AREA
OR USE IT FOR STORAGE**

**YOU MUST NOT MOVE OR DAMAGE
THIS PROTECTION FENCING**

**IF YOU REQUIRE ACCESS
TO THE TREE PROTECTION AREA
PLEASE CONTACT 01925 844004**

Tree Protection Fencing for use on soft surfaces

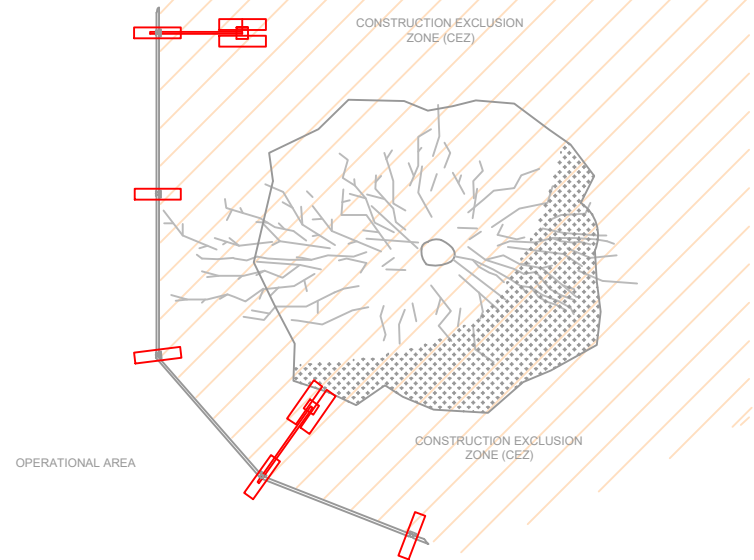
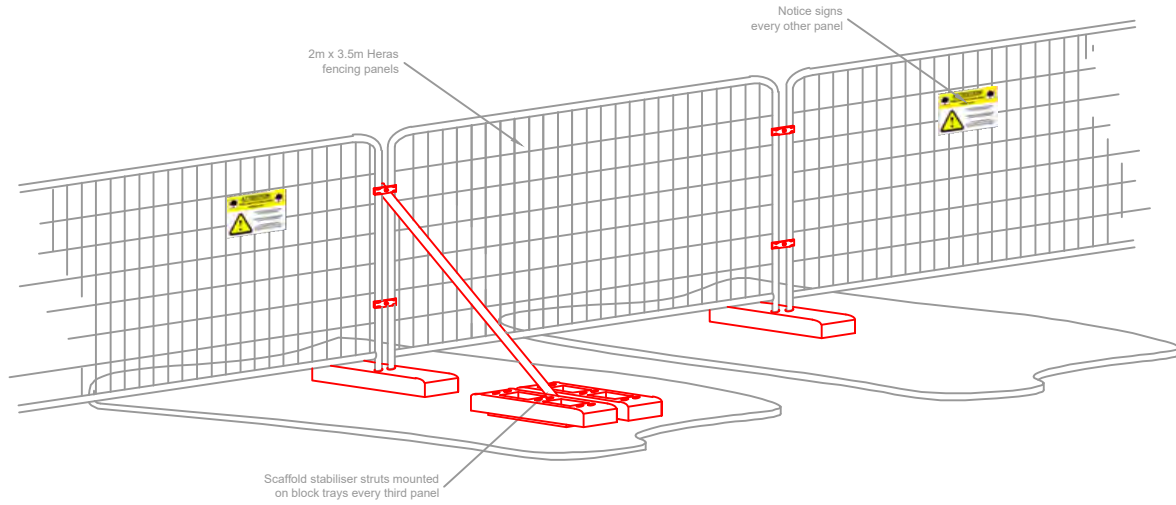


Per 3No. Heras panels (10.5m)

Component	Quantity
2m x 3.5m Standard Heras panels	3
3m Galvenised steel scaffold pole	3
Heras fecurity fence clip	12
Heras stabilising support bar	1
Stabilising pin	2
Tree protection notice	2

Notes:

Tree Protection Fencing for use on hard surfaces



Per 3No. Heras panels (10.5m)

Component	Quantity
2m x 3.5m Standard Heras panels	3
Rubber fencing block tray (footing)	5
Scaffold clamp double coupler	6
Heras stabilising strut support bar	3
Tree protection notice	2

Notes:

Rev	Description	Drawn	Approved	Date
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T

E

P

THE

ENVIRONMENT

PARTNERSHIP

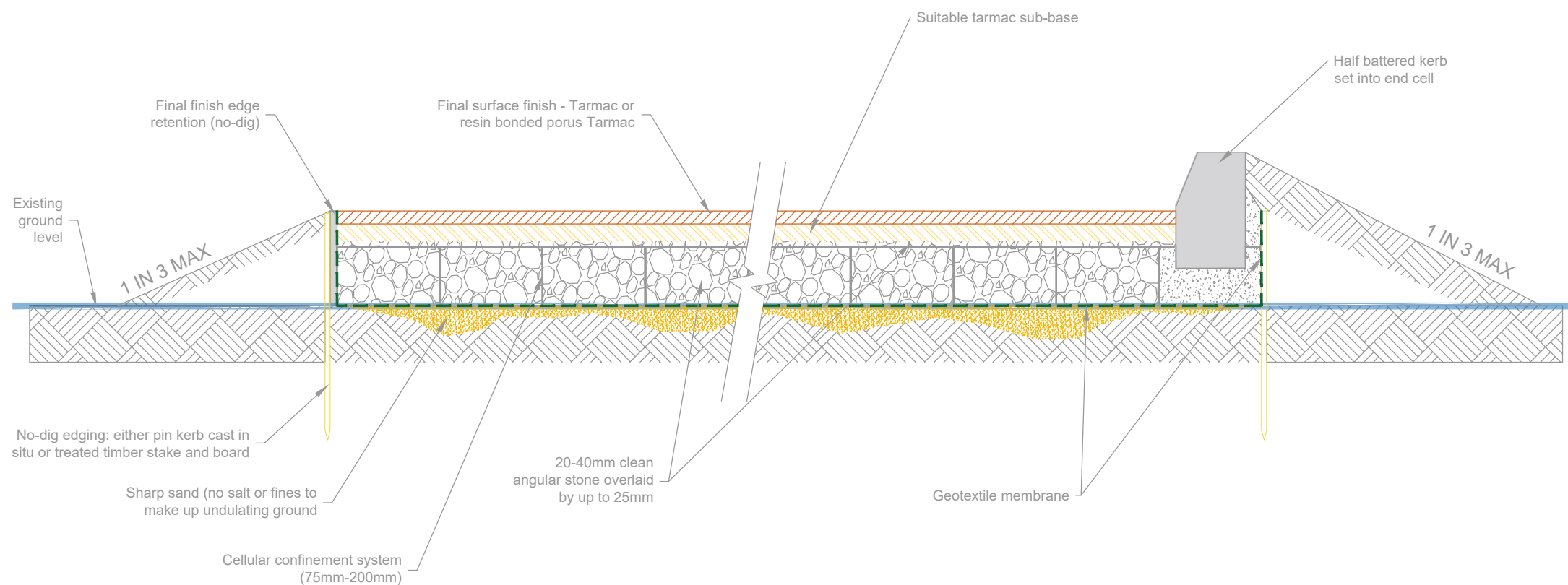
Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project

Title
Temporary tree protection fencing specifications

Drawing Number
TEP.ARB.FEN.003

Drawn	Checked	Approved	Scale	Date
TDP	RMG	JGS	(not to scale) @ A3	09/07/2019



Installation Notes

1. Surfacing specifications to be verified by an engineer prior to installation
2. A vegetation scrape to a maximum depth of 50mm may be undertaken by a flat toothed bucket.
3. A leveling layer of washed sharp sand (no salt or fines) may be laid as required to a maximum depth of 50mm to make up undulating ground.
4. A geotextile membrane will be laid across the whole footpath area with 300mm dry overlapping joints.
5. A no-dig cellular confinement system (CCS) will be laid across the whole area identified on the plans.
6. Clean angular stone (20-40mm) will be loose tipped onto the CCS and spread to give even coverage. Plant and vehicles will not be permitted to track on exposed ground or empty cells.
7. Aggregate will be settled using a walk-behind vibratory plate compactor.
8. In areas of hot surface application, the CCS will be overfilled with aggregate by 25mm. Surfacing will be applied directly to the aggregate base according to the manufacturer's instruction and architect's specification. All products will be pervious.
9. Timber board edging will be used where edge restraints are required.
10. New no-dig surfaces will then be tied into existing ground levels.
11. The no-dig cellular confinement system and geotextile membrane should be laid in accordance with the manufacturers' specifications.



Rev	Description	Drawn	Approved	Date
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Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project

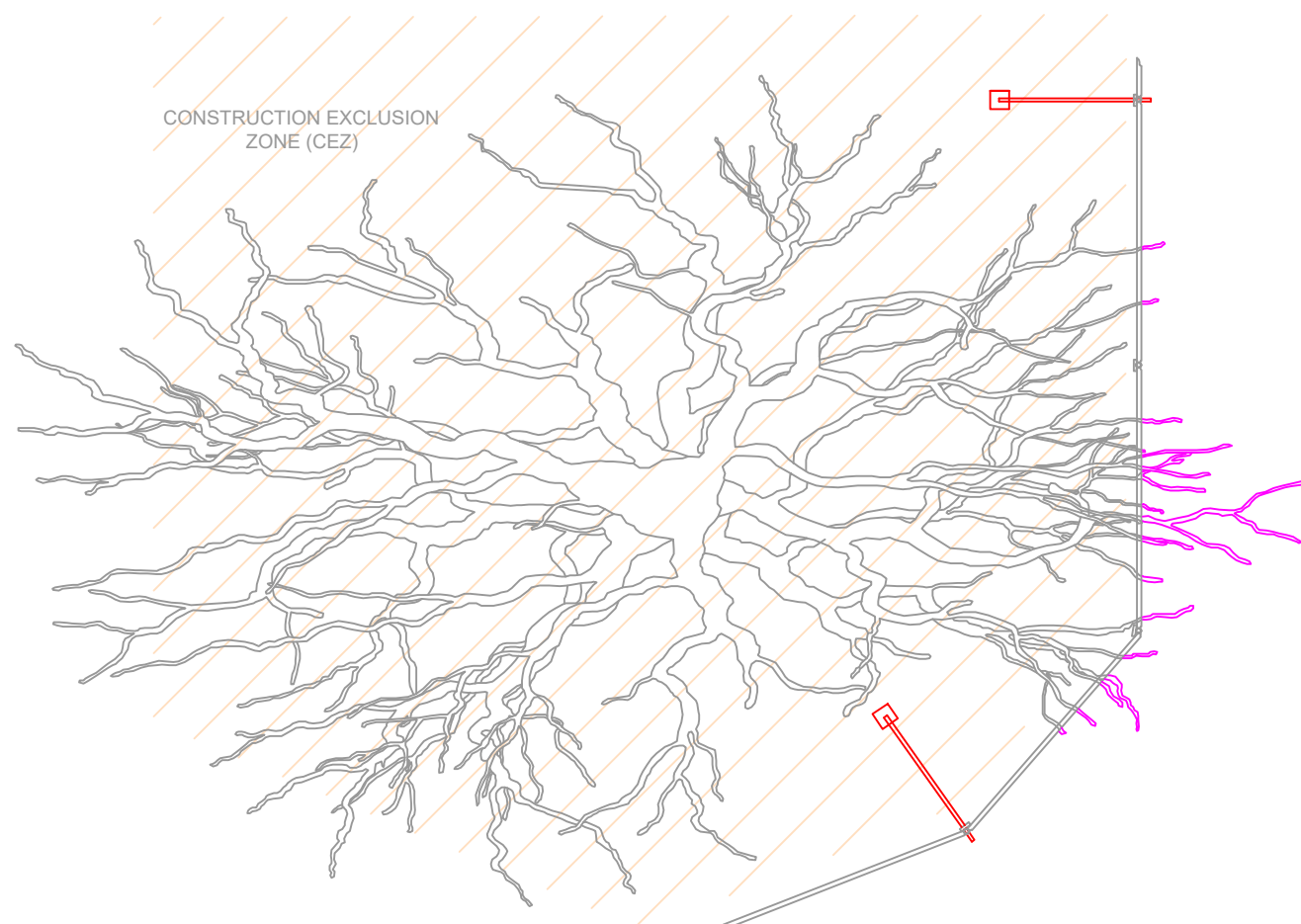
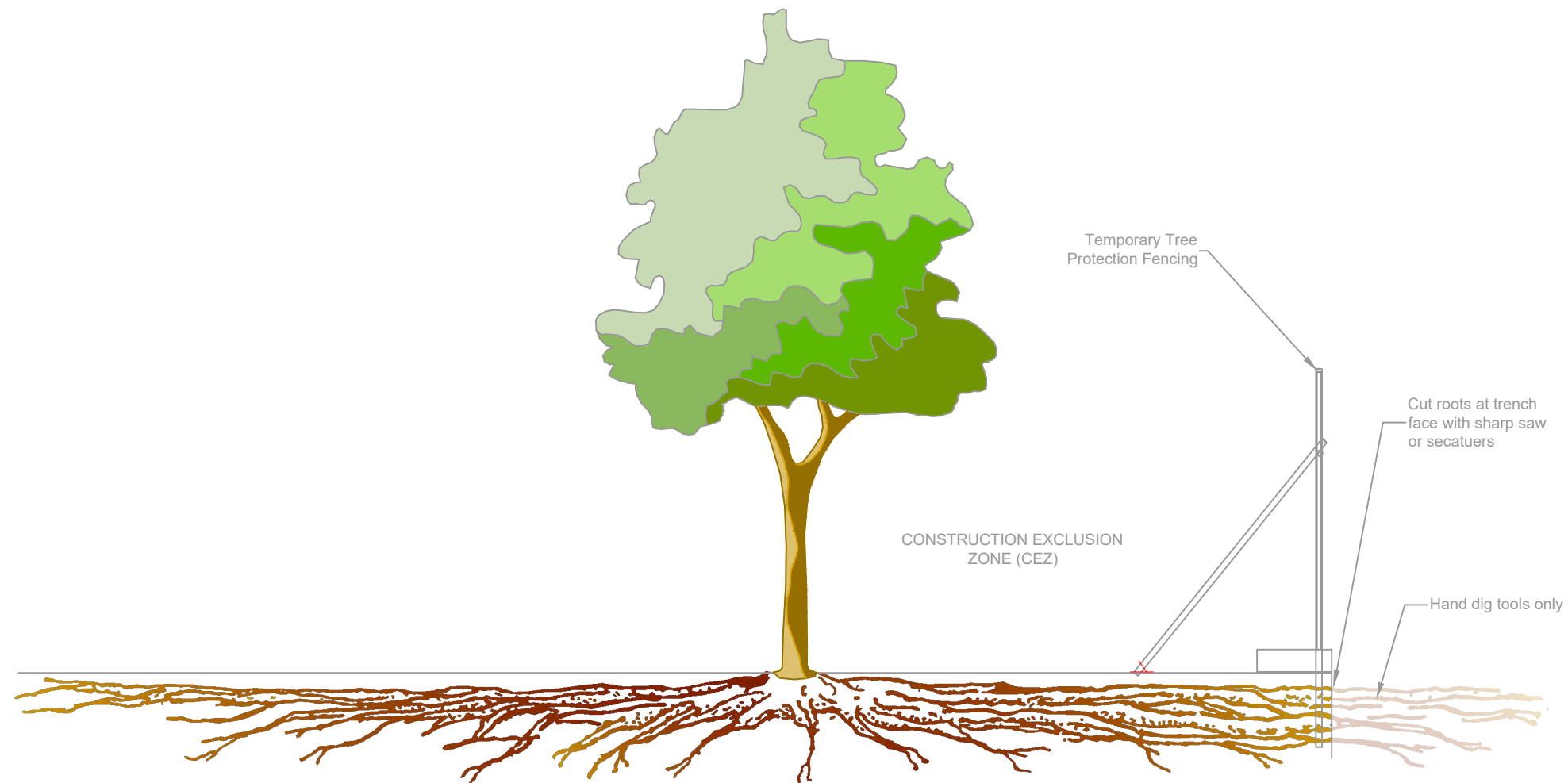
Title

No-dig CCS Indicative specification - Tarmac finish

Drawing Number

TEP.ARB.CCS.002

Drawn	Checked	Approved	Scale	Date
RMG	TDP	JGS	Not to scale @ A3	08/07/2019



Rev	Description	Drawn	Approved	Date
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PARTNERSHIP**

Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project

Title
Excavation - Watching Brief Root Pruning

Drawing Number
TEP.ARB.EXC.001

Drawn	Checked	Approved	Scale	Date
RMG	TDP	JGS	Not to scale @ A3	25/07/2019

HEAD OFFICE

Genesis Centre
Birchwood Science Park
Warrington
WA3 7BH

Tel: 01925 844004
Email: tep@tep.uk.com

MARKET HARBOROUGH

No. 1 The Chambers
Bowden Business Village
Market Harborough
Leicestershire
LE16 7SA

Tel: 01858 383120
Email: mh@tep.uk.com

GATESHEAD

Office 26, Gateshead
International Business Centre
Mulgrave Terrace
Gateshead
NE8 1AN

Tel: 0191 605 3340
Email: gateshead@tep.uk.com

LONDON

8 Trintiy Street
London
SE1 1DB

Tel: 020 3096 6050
Email: london@tep.uk.com

CORNWALL

4 Park Noweth
Churchtown
Helston
Cornwall
TR12 7BW

Tel: 01326 240081
Email: cornwall@tep.uk.com

Appendix F

Tree replacement calculations using the Bristol Tree Replacement Strategy

Feature Ref	Trees removed	Trees in 1:1 replacement category (>19.9cm dbh)	Trees in 2:1 replacement category (20-29.9cm dbh)	Trees in 3:1 replacement category (30-39.9cm dbh)	Trees in 4:1 replacement category (40-49.9cm dbh)	Trees in 5:1 replacement category (50-59.9cm dbh)	Bristol Tree Replacement Standard - Total Requirement	Notes
T9	1					1	5	
T18	1					1	5	
T28	1				1		4	
G4	3		1	2			8	
G7	1	1					1	Generally scrub with estimated 1 tree above 150mm
G8	5	5					5	Inaccessible - figures estimated
G9	0						0	Scrub
G18	3	3					3	Generally scrub with estimated 3 trees above 150mm
G20	23	16	6	1			31	
G21	3	1	2				5	Generally scrub with occasional small trees
G24	7	5	1		1		11	
G26	44	24	17	2	1		68	Group includes numerous dead trees excluded from calculation
G27	0						0	Scrub
G30	11	10	1				12	

Feature Ref	Trees removed	Trees in 1:1 replacement category (>19.9cm dbh)	Trees in 2:1 replacement category (20-29.9cm dbh)	Trees in 3:1 replacement category (30-39.9cm dbh)	Trees in 4:1 replacement category (40-49.9cm dbh)	Trees in 5:1 replacement category (50-59.9cm dbh)	Bristol Tree Replacement Standard - Total Requirement	Notes
G31	4	4					4	
G32	0						0	Scrub
G33	10	3	6	1			18	Includes standing dead trees excluded from calculation
G34	5	5					5	Inaccessible - figures estimated
G35	2	2					2	
G37	0						0	Scrub
G42	19	13	2	3		1	31	
W2	19	9	9	1			32	Includes TPO Ref T15 @300-400mm. Access very difficult
Total	162	101	45	10	3	3	250	

38 Trees Removed in the detailed part of the application including along the proposed access road from Broomhill Road

124 Trees in conflict with Illustrative Masterplan

Trees were surveyed in accordance with the Bristol Tree Replacement Standard (BTRS) as set out in the Planning Obligations SPD. Where trees were below the 150mm DBH threshold a judgment was made whether to include a replacement. This was typically a lower threshold of 100mm DBH in order to exclude areas of very small trees. Nevertheless replacement of these areas of small trees and scrub will be captured within the wider Landscape Masterplan through scrub planting and any subsequent detailed landscape design proposals.

Appendix G

Summary of SHLAA, SA and Allocation Policy as they relate to
Brislington Meadows SNCI

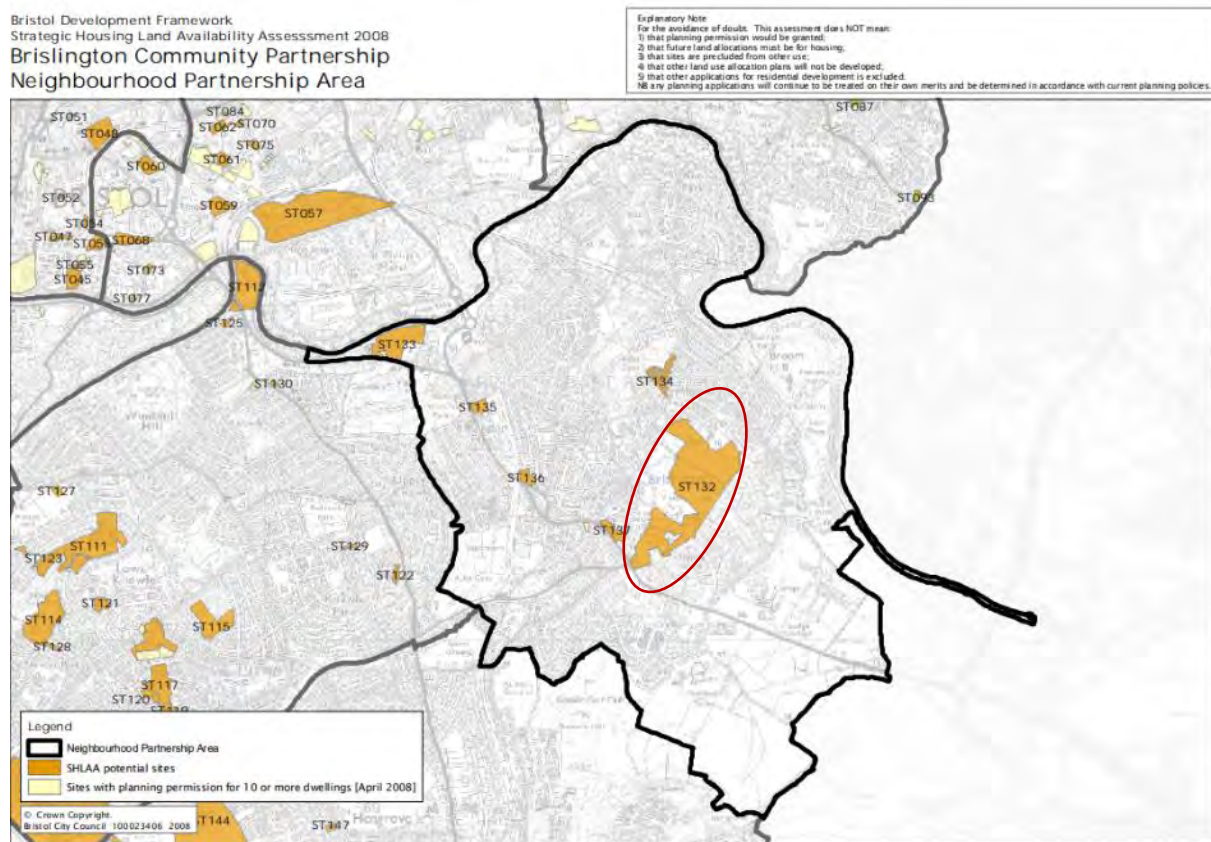
Bristol Development Framework

Strategic Housing and Land Availability Assessment (SHLAA) 2008

Methodology and Stakeholder Technical Assessment

<https://www.bristol.gov.uk/files/documents/1927-shlaa-sta-311008/file>

Brislington Meadows proposed allocation area is identified in the 2008 SHLAA Methodology and Stakeholder Technical Assessment (henceforth referenced as 2008 SHLAA) as site ref ST132 "land at Broomhill". It was measured at 21.1ha with an illustrative capacity of 961 (low) to 1098 (high).



Paragraph 5.2 states for sites over 2ha "it has been assumed that between 70% and 80% of the land would be capable of being developed, to take into account the need for infrastructure and other uses".

Sites included within the 2008 SHLAA recorded sources of sites having included the 2006 HLAA, the Proposed Urban Extensions Capacity Appraisal Study (January 2007) and a number of other potential sites identified following the 2006 HLAA. A copy of the 2006 HLAA could not be located.

The 2008 SHLAA confirms sites were excluded *"when the majority of the site fell into one of the following designations:*

- *High Risk Flood Zone*
- *Sites of Nature Conservation Importance (SNCIs)*
- *Green Belt*
- *Urban Extensions Assessment*
- *Local Nature Reserve*
- *Sites of Special Scientific Interest*
- *Common Land and*
- *Ancient Woodland.*

Sites were also initially excluded from assessment or assessed as having no capacity which were identified as:

- *Parks and Green Spaces*
- *Primarily Industrial and Warehousing Areas (PIWAs)*
- *Primarily existing Office*
- *Allotments in-use and not identified for disposal*
- *Offices in use*
- *Open spaces in use; and*
- *Community uses in use."*

The 2006 HLAA was supported by site visits carried out by staff from the Strategic and Citywide Policy Team between 30 October and 17 November 2006.

The 2008 SHLAA updated the schedule of sites from the 2006 HLAA. This removed sites that were developed or granted planning permission or were subject of S106 for housing and where new site information identified flood risk. Additional sites were added, including sites that were currently designated as Parks and Green Spaces and SNCIs that were initially excluded from the 2006 HLAA.

The SNCI designation for Brislington Meadows dates to 1985 and therefore predates both the 2006 HLAA and the 2008 SHLAA. ST132 Land at Broomhill identified in the 2008 SHLAA includes the majority of the Brislington Meadows SNCI designation. ST132 was not excluded from the assessment recorded by the 2008 SHLAA.

Bristol Development Framework

Strategic Housing and Land Availability Assessment 2009

<https://www.bristol.gov.uk/files/documents/1928-final-shlaa-261109/file>

The 2009 SHLAA repeats much of the baseline applied to the 2008 SHLAA but includes a Call for Sites exercise carried out between 31st October and 19th December 2008 in addition to Corporate Asset Review and Area Green Space Plans work. The 2009 SHLAA excluded "*a number of sites where they are:*

- *Green Belt;*
- *Local Nature Reserve;*
- *Sites of Special Scientific Interest (SSSI), Special Areas of Conservation (SAC), Specially Protected Areas (SPA) or Rmasar sites;*
- *Common Land; and*
- *Ancient Woodland.*
- *Safeguarded Primarily Industrial and Warehousing Areas (PIWAs); and*
- *Flood Risk Zone 3."*

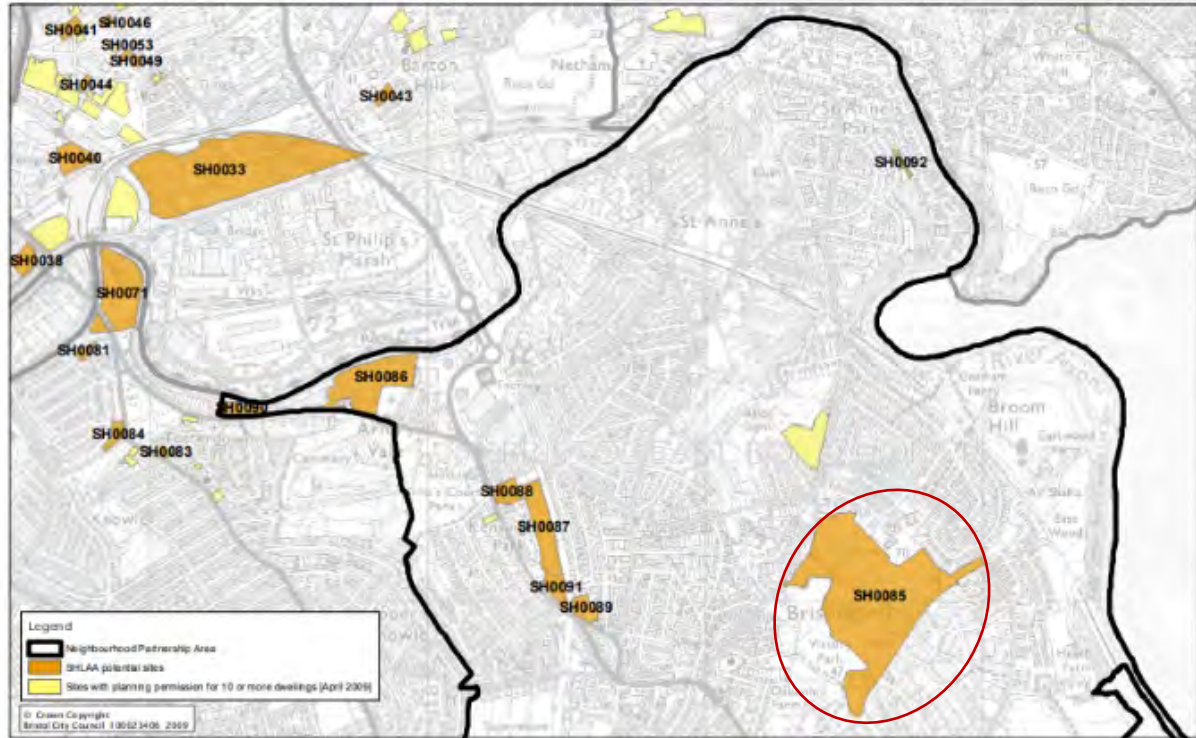
Note that SNCIs are not included in the list of exclusions above.

Brislington Meadows remains in the schedule of sites listed by the 2009 SHLAA, now referenced as SH0085 and covering a slightly reduced area. It is listed in the 2009 SHLAA Annex B Site Schedule as "Land at Broomhill" measuring 18.5ha with an illustrative capacity of 500 and an illustrative phase 2016-21. "*GI mitigation and electricity pylons*" are noted as delivery constraints. Action to overcome constraints (date) was noted as "*Review as part of SA DPD (2010)*".

As illustrated in the extract from the 2009 SHLAA below, the proposed allocation was a larger area than the current allocation or application red line boundary. It included grazing land, scrub, grasslands, woodland and the stream to the south of the current application and allotments to the northeast of the current application.

Bristol Development Framework
Strategic Housing Land Availability Assessment 2009
**Bristolington Community Partnership
Neighbourhood Partnership Area**

Explanatory Note:
For the avoidance of doubt, this assessment does NOT mean:
1) that planning permission would be granted;
2) that future land allocations must be for housing;
3) that sites are precluded from other use;
4) that other land use allocation plans will not be developed;
5) that other applications for residential development is excluded;
All any planning applications will continue to be treated on their own merits and be determined in accordance with current planning policies.



Bristol City Council Bristol Local Plan

Site Allocations and Development Management Policies

Publication Version (March 2013)

Sustainability Appraisal (SA) Main Report

Paragraph 2.3.7 of the 2013 SA Main Report states that detailed results of the options appraisal was reported in the Preferred Approach Sustainability Appraisal March 2012 and a link was provided. This link is no longer valid (access attempted September 2022):



However the 2013 SA Main Report provides an “overview” of the options appraisal in Section 4 and a summary of sustainability rationale for progression of particular allocations options.

Section 4.86 of the 2013 SA Main Report identifies BSA1201 (Broom Hill) as a ‘Super Major Allocation’. A paragraph 4.88.3.1 in relation to Housing Provision, the 2013 SA Main Report determines that “Super major site BSA1201 is considered to have potential for significant positive effects, as the site is thought to be able to provide up to 926 new dwellings, over 3% of the Core Strategy housing requirement”.

However, the boundary for super major allocation BSA1201 presented in the 2013 SA Main Report at Section 4.86 (see below) is largely the same as the current allocation which allows for only 300 (not the 926 cited above).

Neighbourhood:
Brislington

Allocation Sites: 8

Super Major Allocations: 4

BSA1201 (Broom Hill)
BSA1202 (Paintworks)
BSA1203 (Government Offices,
Flowers Hill)

Housing: 4

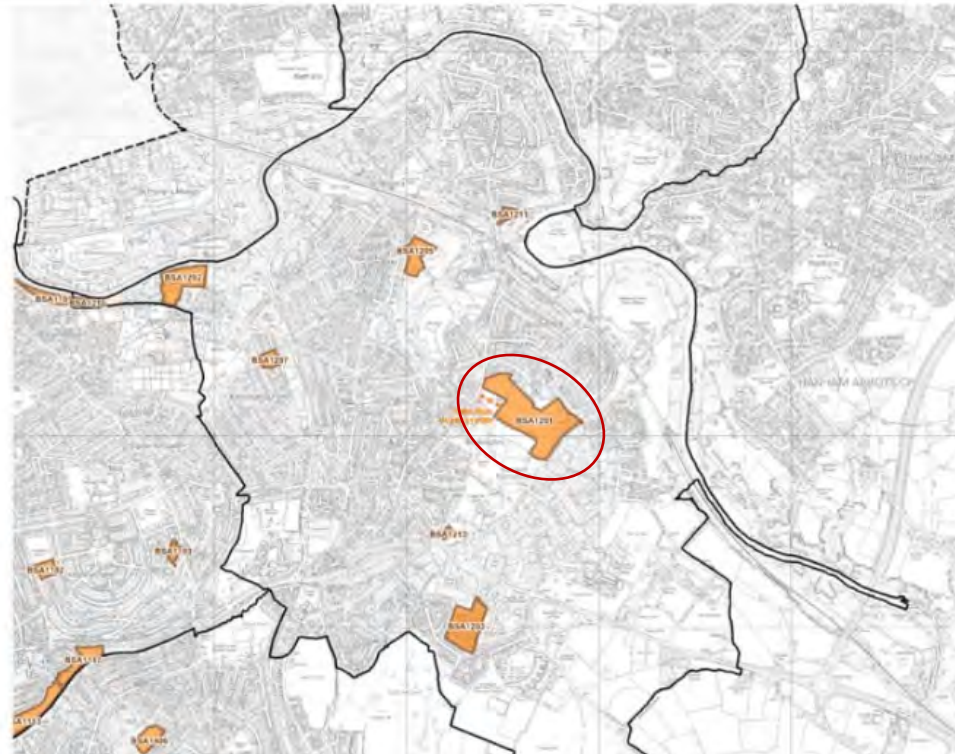
Housing and Business: 1

School: 1

Enterprise Zone: 2

Publication Version
Policies Map
Brislington

Sites Allocated for Development
Site reference



Options considered for BSA1201 included Option A housing, Option B employment and Option C no development.

Section 4.88.8 of the 2013 SA is titled "Local Ecology". The following extracts from this section 4.88.8 relate to consideration of BSA1201:

4.88.8.1 BSA1201 contains the large local site, Brislington Meadows SNCI and a number of Wildlife Corridors, Park Allotments, Chalet Garden Allotments and Site Behind Brislington Allotments, that collectively form important areas of the Bristol Wildlife Network. The existing SNCI and Wildlife Corridor behind Brislington Police Station connect wildlife, to the Eastwood Farm SNCI and greenbelt to the east of the City. The site also forms part of the Strategic Green Infrastructure Network due mostly to connectivity role for wildlife. Currently the development considerations do not make reference to the sites role in the Wildlife Network and need to consider wildlife connectivity both across the site and to the east. Therefore Option A and B are considered to have potential for a negative effect on the connectivity and function of the Wildlife Network formed by this particular local site and its corridors.

4.88.8.2 The SNCI is one of the larger in the city contains records of both Species of Principal Importance (Hedgehogs, House Sparrows and Slow Worms) and Habitat of Principal Importance (Lowland meadows). Options A and B are also considered to have potential for negative effects as a large expanse of the existing Brislington Meadows SNCI, approximately half, 15 hectares of the SNCI, would be lost and the associated habitats and species onsite displaced from this area of the city. Collectively the loss of the Wildlife Network connectivity and function and a large expanse of SNCI are considered to have potential for significant negative effects.

4.88.8.3 Option C on BSA1201, and Option B on BSA1205 and BSA1206, to not allocate is considered to have positive effects on local ecology through protecting the status of the local site and maintaining current connectivity and integrity of the Wildlife Network.

Section 4.88.9 relates to Conservation and wise use of land. The following extract from this section considers BSA1201:

4.88.9.3 The exception to the generally positive effect is on BSA1201, as the site contains SNCI land which might be lost to development if it cannot be replaced or recreated elsewhere. While it is considered that Wildlife Corridors can be mitigated and often integrated or re-sited as part of development, if SNCI land is lost and then not replaced leading to a net loss of SNCI land in the city, it could be considered a loss of valuable land. Although the negative effect is not considered to be of the same extent as loss of important open space or green belt land, is it considered that a potential negative effect, depending on implementation could occur. The requirement to re-include allotments within the site boundary assists in avoiding a negative effect by replacing a valuable open space asset. Overall on the site, not allocating would lead to both a positive (retention of SNCI land) and negative effect keeping the less important areas of open space and Wildlife Corridor, as opposed to meeting either housing or employment need on this less valuable land.

Section 4.88.10 relates to Green Infrastructure. The following extract from this section considers BSA1201:

4.88.10.1 BSA1201 also contains existing allotments, an important type of open space for community use, their loss would be considered to result in negative effects on green infrastructure. However a development consideration requires existing allotments to be re-provided within the boundary of the site, avoiding any negative effects.

4.88.10.2 The final effect on green infrastructure on super major site BSA1201 is currently considered to be dependent upon implementation, further development considerations relating to the SGIN link through the site could ensure negative effects would be avoided and potential positive effects created.

Section 4.90 identifies Option A Housing as the preferred approach. The summary Sustainability Rationale for Preferred Approach Chosen is cited as:

Any new significant effects set out in Preferred Approach Effects section.

Significant Positive effect on Housing Provision

Positive effect on; Improve Healthy Lifestyles and Increasing Walking, Cycling and Public Transport

Section 4.91 considers the preferred approach effects in more detail. Section 4.91.4 Local Ecology provides some explanation as to the discrepancy between the Super major allocation BSA1201 description and the boundary illustrated at section 4.86 which more closely reflects the current allocation for 300 homes:

4.91.4.1 Site BSA1201 has been reduced in size, which will now retain a much larger proportion of the existing SNCI, this is considered to reduce the extent of negative effect on local ecology. The development considerations for the site, introduced as part of the Preferred Approach, now also effectively require compensation and mitigation to reprovide, offsite and nearby, the type of habitat which might be lost to development. This is considered to reduce the potential for negative effect from harm or net loss of SNCI land in the city, creating an implementation dependent effect on local ecology.

4.91.4.2 However, the role of the Wildlife Network through the SNCI and linked Wildlife Corridors is still not acknowledged and potential exists for this wildlife corridor and section of the network to loss connectivity and integrity. This is still considered to create potential for significant negative effects on local ecology on this site.

The following paragraph under Section 4.91.5 Conservation and Wise Use of Land relating to BSA1201 is also of relevance:

4.91.5.1 The reduction in the size of BSA1201 will retain a much larger area of SNCI assisting in protecting this more valuable land assets in the city. In addition development considerations introduced on the Preferred Approach for the site have enhanced clarification in relating to mitigation of any lost SNCI land. The development considerations now effectively require compensation and mitigation to reprovide, offsite and nearby, the type of habitat which might be lost to development. This is considered to reduce the potential for negative effect from harm or net loss of SNCI land in the city, creating an implementation dependent effect on conservation and wise use of land.

The areas removed from the allocation appear to have been the allotments northeast of the current allocation and the wooded area south of the current allocation along Bonville Road.

Section 4.91.6 relates to Green Infrastructure. Paragraphs of relevance to BSA1201 are extracted below:

4.91.6.1 Development considerations have been introduced for the Preferred Approach on BSA1201, which require retention of existing trees and hedgerows, which is considered to create potential for positive effects on existing GI assets on the site.

4.91.6.2 The development considerations relating to the Strategic Green Infrastructure Network link connecting into and through the site have also been strengthened, from 'seek to provide' to provide a green infrastructure link with Eastwood Farm Open Space to the north-east. This should assist in reducing potential negative effects of severe or loss of function and connectivity of green infrastructure in that area of the site. However the overall nature of the link also has connections and functions on the west of the site, through Brislington Brook, allotments, this is still not acknowledge and effects are still therefore considered dependent on implementation.

4.91.6.3 Overall the effect on green infrastructure is now considered to be positive and implementation dependent rather than just implementation dependent.

The 2013 SA robustly confirms the principle that the allocation was assessed to very likely lead to significant negative ecological effects including physical loss of part of the SNCI (including its habitats and species) and significant loss of connectivity and integrity of the local network. Compensation and mitigation approaches, including "offsite and nearby", were recommended to result in the preferred option having an "implementation dependant effect".

Site Allocations and Development Management Policies

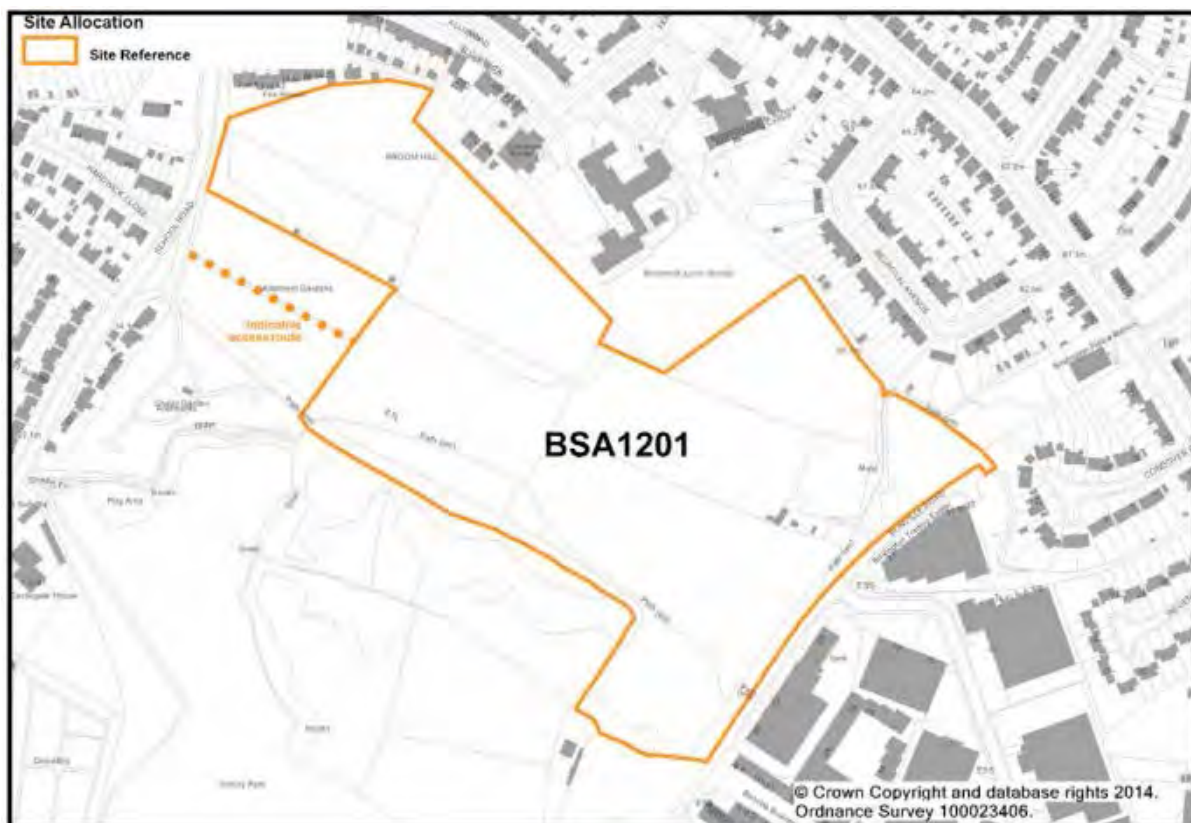
ANNEX: SITE ALLOCATIONS INFORMATION

Adopted July 2014

<https://www.bristol.gov.uk/files/documents/2236-site-allocations-annex-adopted-july-2014-indexed/file>

This document forms part of the adopted Local Plan and provides details of the site allocations in the Site Allocations and Development Management Policy SA1.

The allocation BSA1201 Land at Broom Hill, Brislington measures 9.1 hectares and is for housing. The estimated number of homes for this site is 300. The adopted allocation boundary for BSA1201 is illustrated at NP12 Brislington on page 154, copied below.



The allocation requires that development should:

- *be led by a comprehensive masterplan of the whole site, guided by community involvement;*
- *provide suitable access, which may include access off School Road through the existing allotments and ensure that any allotments affected are reprovided on the site or on nearby land;*
- *be informed by an ecological survey of the site and make provision for mitigation and compensation measures, including enhancement to the*

grazing land adjacent to Victory Park and compensation for the loss of semi-improved neutral grassland and damp grassland (the site currently has city-wide importance for nature conservation due to the presence and condition of particular species, habitats and / or features);

- retain or incorporate important trees and hedgerows within the development which will be identified by a tree survey*
- provide a green infrastructure link with Eastwood Farm Open Space to the north-east;*
- take account of the overhead power lines;*
- retain and where appropriate improve the public rights of way on the site and provide pedestrian / cycle links with Brislington Trading Estate;*
- seek to provide pedestrian / cycle links with Eastwood Farm Open Space to the north-east via the site of Sinnott House Police Station;*
- ensure that any scheme provides for any necessary improvements to the surrounding highway / transport network;*
- address any potential noise, pollution and nuisance issues from nearby industrial uses through the design and layout of new development and incorporation of measures to prevent any noise or other pollution affecting new development;*
- be informed by a site-specific flood risk assessment as the area of the site is greater than 1 hectare. This is a requirement of the Government's National Planning Policy Framework. The flood risk assessment should consider the impacts on the wider Brislington catchment, and lead to a reduction of the flood risk to existing properties and, where necessary, improvements to existing drainage infrastructure;*
- incorporate appropriate Sustainable Drainage Systems to minimise surface water runoff and the risk of flooding;*
- be informed by a Health Impact Assessment. This should include how the proposals have been discussed with local primary health care providers regarding impacts on primary health care services*

The allocation justifies housing as appropriate as:

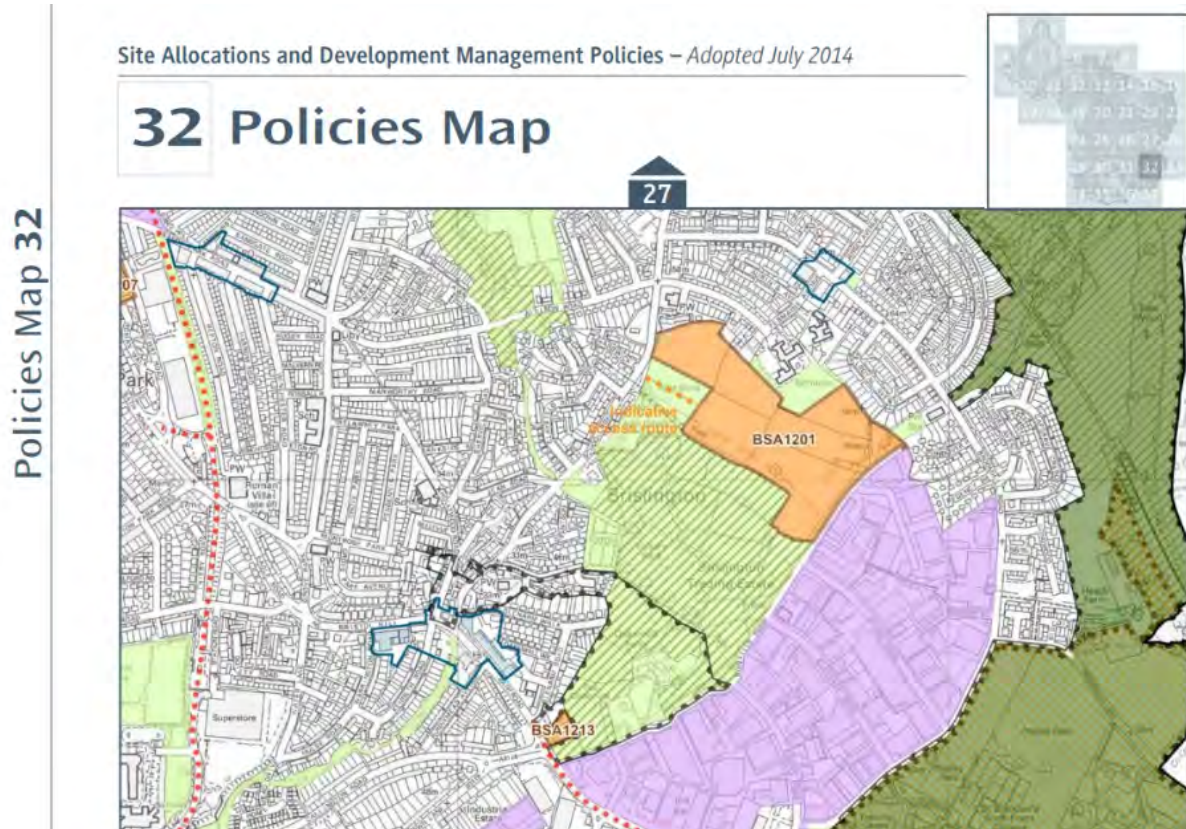
- The site is in a sustainable location close to the supermarket and shops of Broomhill Road / Fermain Avenue Local Centre, shops on the Brislington Retail Park, community facilities, employment areas and public transport infrastructure, with a residential context to the north and west.*
- It will contribute to meeting the Core Strategy minimum target of providing 26,400 new homes in the period 2006-2026.*
- It reflects the Core Strategy approach to the location of new housing by developing new homes on land which does not need to be retained as part of the city's green infrastructure / open space provision.*

Site Allocations and Development Management Policies POLICIES MAP

Adopted July 2014

<https://www.bristol.gov.uk/files/documents/2237-policies-map-sept-14-bd5605/file>

Site BSA1201 is identified on Policies Map 32 in the adopted local plan:



Appendix H

Ecological Features: Summary of Evaluation, Impacts,
Mitigation, Compensation and Enhancement

Table H.1 below presents the summary of the baseline, ecological impacts and recommendations set out in the Outline EclA. This table has been amended as informed by survey updates to January 2023. Amendments are depicted in blue text.

Table H.1: Updated summary of ecological effects and recommendations

Key ecological feature	Status / Value	Baseline, Impacts, Avoidance, Mitigation and Compensation
Brislington Meadows SNCI	Bristol Local Plan Policies BSC9, DM19 County importance	<p>Locally designated wildlife site adjacent to the site, designated mainly for grassland habitats. The extent of the SNCI formerly included the majority of the site but pre-application consultation (20/04579/PREAPP), the Screening Decision of the Council (20/05675/SCR)^[16] and the Adopted Local Plan Policies Map confirmed the allocated area of the site (under policy BSA1201) is no longer subject to the designation of SNCI status.</p> <p>This advice was later reversed by the Council and the SNCI status is now considered to remain in force across the allocated area. However, the Council's Planning Committee Report (7th December 2022) confirms that the SNCI designation is not considered a material consideration and the policy protection it confers cannot be applied to development that accords with the allocation. The revised position of the site's designation as SNCI would therefore result in a net loss of 8.9ha from the Brislington Meadows SNCI designated area. This assumes loss of the whole footprint of the SNCI within the application boundary, except for the extents extending up to School Road and into Victory Park, which would remain within the 'residual SNCI' area. This is a loss of 33% of the net area of the Brislington Meadows SNCI.</p> <p>Designation of new/replacement SNCI to offset the loss of net area as a consequence of planning decisions, namely allocation of designated areas, sits with the Council. However, habitat reinstatement, enhancement and creation within the application site will deliver habitats adjacent to and linking with the retained area of the SNCI that will be complimentary to the SNCI designation. Habitat offsetting for grassland (including grazing land to the south, within the retained SNCI in accordance with the allocation policy), scrub and</p>

16 Screening Decision of Bristol City Council (20/05675/SCR)

Key ecological feature	Status / Value	Baseline, Impacts, Avoidance, Mitigation and Compensation
		<p>woodland will achieve 10% net gain in habitats currently within the SNCI.</p> <p>Two small areas of the site within the SNCI comprise the 'Cycle Link' in the west where the existing public right of way between the site and School Road is proposed to be upgraded and the 'Drainage Link' in the south where a below ground drainage connection between the sustainable drainage system within the site and the existing pipe network is anticipated.</p> <p>Adverse impacts upon these areas of the retained SNCI will be avoided through design of construction methods (avoiding tree loss within the cycle link and applying below-ground construction methods for the drainage link). Adverse construction-stage disturbance effects on fauna in the SNCI can be avoided and through habitat restoration and enhancement.</p>
Local Sites Network	<p>Bristol Local Plan Policies BSC9, DM19</p> <p>County importance</p>	<p>The Outline design has focussed substantially upon maintaining the site's strategic corridor function within the local network of wildlife sites. Southern and eastern corridors have been designed to maintain strategic corridor functionality around the site (maintaining connectivity between the three most relevant local wildlife sites at St. Annes Valley, Brislington Meadows and Eastwood Farm Open Space). Ecological corridors through the site are delivered by retention of hedgerows and associated grassland and scrub habitats within greenspace corridors.</p> <p>Adverse effects on wider connectivity are avoided except where they are an inevitable consequence of creating the primary access from Broomhill Road and the secondary emergency access from Bonville Road. The adverse effects would be minimised by retention and/or re-creation of woodland habitats. Mitigation measures, including sensitive lighting, will be required in the detailed design to ensure these corridors are delivered accordingly and retain appropriate ecological function.</p>
Irreplaceable habitats	National Planning Policy Framework (NPPF)	<p>The veteran tree T6 has been protected within its current setting by the design process. This includes formally rerouting the public right of way that used to follow the line of the south boundary on which T6 is located and applying below-ground construction</p>

Key ecological feature	Status / Value	Baseline, Impacts, Avoidance, Mitigation and Compensation
		methods for the drainage link that will need to cross the tree line in which T6 is located.
Hedgerows	Natural Environmental and Rural Communities Act 2006 (NERC), Hedgerow Regulations 1997 Local importance	<p>Although most field boundaries are vegetated, many have outgrown beyond the point of being classed 'hedgerow', defined by a maximum basal width of 5m. Six hedgerows are present in the site; five on internal boundaries (also very outgrown), the sixth on Broomhill Road. All are native and therefore are Habitat of Principal Importance (HPI) but are species poor. The five internal field boundary hedgerows are assessed as 'important' under the ecological criteria of the Hedgerow Regulations, but only due to the presence of native bluebell.</p> <p>These five hedgerows, along with some other outgrown field boundaries are also assessed as important under the historical criteria of the Hedgerow Regulations, but only to the same extent as many enclosure period hedgerows throughout the British lowlands.</p> <p>As is explained on a hedge-by-hedge basis in chapter 6, the survey results led to a conclusion that losses should be restricted to those necessary for access, adequate circulation and place-making. A framework of boundary hedges and woodland belts, along with retention or incorporation of south-north hedgerows that connect directly to the retained SNCI, was seen as the highest priority for design.</p> <p>Drawing 2 shows habitat and hedgerow losses. Loss of 707m hedgerow of an existing 1564m is estimated initially. New species rich hedgerow planting will be required. This should include a minimum 540m targeting strategic ecological corridors to provide north-south and east-west connectivity. Capacity for a further 515m planting is anticipated within detailed design (net total extent of hedgerows within the site would be 1906m and increasing net gain in hedgerows).</p>
Scrub	Bristol local priority habitat Local importance	<p>Areas of continuous bramble, blackthorn and mixed scrub are present around field edges, originating from existing or former hedgerows. Scrub is of value for invertebrates and some nesting bird species.</p> <p>Loss of 1.66ha of the existing 2.69ha is initially estimated, mainly associated with hedgerow loss, with a net area of 1.17ha retained or created within the site post-development. Retained scrub within the site will</p>

Key ecological feature	Status / Value	Baseline, Impacts, Avoidance, Mitigation and Compensation
		<p>be enhanced (species enrichment and structural diversification).</p> <p>Offsetting will be required and should include scrub habitat to address net loss.</p>
Grassland	Local importance	<p>A variety of neutral and modified grasslands are present. The primary ecological value of the existing grasslands is providing habitats for the invertebrate assemblage.</p> <p>Temporary and permanent losses of grassland are unavoidable to create the development platform, drainage systems, footpath and cycle network and earthworks for establishing appropriate levels for these areas.</p> <p>Construction-stage loss of 5.75ha of the existing 6.17ha is estimated, with a net "post-development" area of 2.88ha retained or created within the site. Retained and created grassland (including the new 'wet meadows') will be designed and managed to achieve a higher ecological value than existing grasslands. Much will be located adjacent the retained SNCI and will contribute to its value as an invertebrate habitat.</p> <p>Offsetting will be required and should focus upon creating or restoring species rich grasslands to address net loss from within the site.</p>
Woodland	<p>Bristol local priority habitat</p> <p>Below local importance</p>	<p>Three small areas of secondary or plantation broadleaf woodland are present at peripheral locations in the south (W1), east (W2) and north (W3). While the extent of W1 within the boundary is below the 0.5ha size threshold to qualify as local priority woodland, W1 extends off site and would qualify as local priority habitat in its entire extent. W2 and W3 are individually below the size threshold to qualify as local priority habitat.</p> <p>Loss of some woodland is unavoidable to enable access off Broomhill Road. Loss of 0.13ha of the existing 0.5ha is initially estimated, with a net area of 0.44ha retained or created within the site post-development.</p> <p>Enhancement of retained woodland (species enrichment, removal of invasive species and structural diversification) will be implemented in addition to new tree planting.</p> <p>Offsetting will be required to address net loss from within the site.</p>

Key ecological feature	Status / Value	Baseline, Impacts, Avoidance, Mitigation and Compensation
Trees	Bristol Local Plan Policy DM17	<p>Trees within the site are entirely contained along field boundaries (within hedgerows and scrub) or within woodland features.</p> <p>The outline AIA confirms that no grade A trees or groups would require to be felled. Drawing 1 shows the definite and probable losses, along with confirmed retentions. A detailed analysis of the impact on trees and the TPO is provided at Chapter 6.</p> <p>As described for hedgerows, the design process followed the mitigation hierarchy by avoiding Grade A trees, and then trying to avoid other tree impacts unless essential for access, adequate circulation and place-making.</p> <p>New tree planting would be implemented in accordance with Bristol's tree replacement obligations (replacement ratios of between 1:1 and 1:8). New tree planting will also be an important aspect for ecological mitigation, to maintain habitats and habitat links for wildlife. Tree species will be selected for the benefit of invertebrates and which will also deliver climate resilience. A net increase in tree canopy cover is anticipated within the site, which would be confirmed by the detailed design stage.</p>
Amphibians	<p>Wildlife and Countryside Act 1981 (as amended) (WCA), NERC</p> <p>Below local importance</p>	<p>No suitable breeding habitat in or within 250m of site. A small artificial pond in the school north of the site and an ephemeral field pond southwest of the are isolated from each other (>500m apart) both with a 'poor' Habitat Suitability Index for great crested newts (Annex 1) and the few artificial water features noted in allotments west of site are unsuitable for great crested newt breeding. No great crested newt records were identified within 1km of the site. Great crested newts are therefore concluded to be absent. Common frog and common toad were confirmed be present terrestrially within site (low density) and likely to use water features offsite for breeding, but most are these are sub-optimal and likley to only support low breeding populations in combination.</p> <p>The scheme offers potential for enhancement of amphibian habitat through the installation of the SuDS scheme.</p>
Reptiles	WCA, NERC	A resident population of slow worm is present that will use grassland, hedge and scrub habitats across the site.

Key ecological feature	Status / Value	Baseline, Impacts, Avoidance, Mitigation and Compensation
	Below local importance	The landscape of the proposed development is considered to have capacity to sustain the slow worm population onsite post-development, but the ability to retain the population on site is also dependant on capacity of habitats remaining available during the construction process. While retention on site is preferable, if the construction plans do not retain sufficient suitable habitat for the population, offsite translocation would be required, including identification (and preparation) of a suitable receptor site. The approach for slow worm mitigation (on or offsite) will be confirmed once construction details (including phasing and timescales) are finalised.
Birds	WCA, NERC Below local importance	<p>Ten bird species (four notable) were confirmed to be nesting within the site, with a further nine species (four notable) classed as probable breeders and two (one notable) classed as possible breeders. Nesting habitats are limited to the hedgerows, scrub, trees and woodland. No ground nesting in the grassland was recorded. Peregrine, kestrel, buzzard, tawny owl, little owl and raven were noted in or over the site but were not nesting in the site.</p> <p>Vegetation clearance in advance of development must be planned to avoid the nesting bird season (March to August inclusive). Vegetation clearnace should be phased and advance planting should be implemented where ever possible to reduce impacts of habitat loss. A comprehensive scheme of nest box and roost habitat provision is recommended, using both new build and greenspaces. Habitat design and management that will benefit invertebrates will also benefit birds (directly and indirectly by creation of nest habitats and foraging opportunities).</p>
Invertebrates	NERC Vice-county importance	A total of 365 species were identified including nine species of conservation significance (two Bristol long-list species, one of which is also a Species of Principal Importance) and two of local interest. The assemblage is dependant upon the mix of grassland, hedgerow and scrub habitats present in the site. Some species recorded are more dependant upon single habitat types or even single plant species (specific trees, grasses or wildflowers).

Key ecological feature	Status / Value	Baseline, Impacts, Avoidance, Mitigation and Compensation
		<p>The Outline design stages have focussed substantially upon maximising opportunities to retain invertebrates and particularly pollinators within the site. Mitigation measures, including sensitive lighting will be required in the detailed design. Grassland and scrub habitats would be enhanced to increase botanical diversity for invertebrates (particularly pollinators). New planting would select species of value for invertebrates. Habitat diversification would be introduced for the benefit of invertebrates by design of the sustainable drainage basins as 'green' rather than 'blue' features (the 'wet meadows') which deliver a local mosaic of temporary pools and hummocks that will create habitat features for invertebrates. Apartments would be designed with brown roofs to provide invertebrate habitats and other structures such as sub-stations, pumping stations, bus stops etc. would be considered in detailed design for incorporating brown or living roofs. Other measures such as the inclusion of species rich flowering lawns in recreational areas and creation of invertebrate refuge features throughout the site will be incorporated into detailed. Management of the landscape within the site will be devised to maintain invertebrate populations and diversity. Light mitigation will be required to reduce light disturbance effects.</p>
Badgers	Protection of Badgers Act 1992	<p>A sett located in the northwest of the site has been demonstrated to be disused over the period September 2019 to January 2022. It remains disused, based on November 2022 assessment. A sett, likely to be active at least sporadically and comprising three holes, was located at the eastern end of H2 in January 2023. The dense scrub, especially that along the north boundaries around fields F4 and F5 and the south boundaries of fields F4 and F3, are important for badger foraging (and are likely to be important for other mammals including fox and deer). Hedges across the site, including bramble scrub, provide forage habitat.</p> <p>Construction methods will need to incorporate measures to avoid entrapment and other risk to wildlife. Sett retention in H5 is considered achievable (even if it remains disused) and is recommended to retain shelter opportunities for other wildlife (in the event the landscape setting around the sett may not be optimal for badgers). Sett retention in H2 is presumed at this</p>

Key ecological feature	Status / Value	Baseline, Impacts, Avoidance, Mitigation and Compensation
		Outline stage to be unlikely, although detailed design may be able to accommodate the sett. Monitoring of the setts should continue and in the event occupation is confirmed, a licence from Natural England would be required to permit closure of the sett in H2 and any other development activities in proximity of an active sett (including landscaping if this is to alter the landscape setting around the sett). The design and extent of greenspace will retain important foraging habitat for badgers and scrub retention will maintain sheltered foraging and dispersal habitats. Light mitigation will be required to maintain darkened habitats and habitat corridors around the site.
Hedgehogs	NERC Bristol Biodiversity Action Plan	The hedgehog is a SPI and is a Bristol priority species with an individual local Species Action Plan (LSAP). Hedgehogs will primarily use hedge and scrub habitats in the site but may range into grasslands for foraging. The proposed development is considered to maintain sufficient suitable habitat for hedgehogs. Construction methods will however need to incorporate measures to avoid entrapment and other risks to hedgehogs. Detailed designs will need to maintain permeability for hedgehogs through the site. This will include provision of access gaps into and between gardens and may need to include provision of safe access across vertical step level changes that may be introduced across the site. Habitat design and management that will benefit invertebrates will also benefit hedgehogs (directly and indirectly by creation of shelter habitats and foraging opportunities). Light mitigation will be required to maintain darkened habitats and habitat corridors around the site.
Bats	Conservation of Habitats and Species Regulations 2017 (as amended) WCA, NERC City to Local importance	18 trees were identified in the Outline EcIA baseline and by survey updates in November 2022 and January 2023 to provide features suitable to support roosting bats, but no current or recent roosts were identified. Only one of these trees is currently anticipated to require removal. Inspections and appropriate felling of any tree with bat roost suitability will be required and bat boxes should be installed at a ratio of 3: 1 for each tree with roost suitability to be removed. At least 12 bat species were recorded within the site. Primary use of the site by bats is for commuting, with

Key ecological feature	Status / Value	Baseline, Impacts, Avoidance, Mitigation and Compensation
		key corridors identified along the southwest boundary, crossing the site centrally and continuing east to the woodland. This route avoids habitats in the south and east that subject to substantial light disturbance from Bonville Road and would enable passage of bats between St Anne's Valley in the west, Brislington Meadows in the south and Eastwood Farm Open Space in the northeast. The design and extent of greenspaces, including creation of new wet meadows in the drainage basins, will retain important commuting and foraging habitat for bats. Habitat design and management that will benefit invertebrates will also benefit bats. Light mitigation will be required to maintain darkened habitats and habitat corridors around the site.

Appendix I

Analysis of Policy and Legislation Compliance

Analysis of Policy and Legislation Compliance

- I.1 This Appendix contains an appraisal of how the Appeal Scheme responds to, and complies with relevant legislation and also some strategies that are not applied by the City Council in its reasons for refusal, but have been referred to in consultations. This Appendix is to be read alongside Chapter 9 which addresses national and local policies cited by the Council in its Reasons for Refusal.

Legislation

The Conservation of Habitats and Species Regulations 2017

- I.2 No part of the site falls within or adjacent to a designated European or Ramsar site, nor are any of the habitats within the site functionally linked to any such designated site. Furthermore, no impact pathways have been identified between the site and the qualifying features of any European or Ramsar designated site.
- I.3 The site does not support any resident population of European protected species. There are a number of trees within the site which provide potential bat roost habitat but repeated surveys throughout 2020 to 2022 have not identified any current roost sites. One historic roost site within a tree located on the southwest boundary, by the small stream was identified. DNA analysis to confirm species was not possible due to the age of the sample material. This tree would remain unaffected by the scheme. Recommendations are set out in the Outline EcIA for repeat inspections of the tree stock and specific measures to be adopted for any tree removal affecting trees identified to have bat roost suitability, including avoidance measures to prevent harm to bats and provision of replacement roost habitat. Additional provision of bat roost habitat is also recommended by the Outline EcIA to be installed into the new build and/or landscape. Details of new habitat provision and landscape design is a reserved matter.
- I.4 The site is recognised by the Outline EcIA to have an important connectivity function within the local ecological network. The scheme seeks to maintain important bat flyways and links northwest, south and northeast through the design and layout of the Green Infrastructure (GI). The Outline EcIA recommends measures for the reserved matters stage, including lighting impact assessment and appropriate light mitigation, to ensure functionality of the GI corridors for light sensitive species, including bats.
- I.5 Natural England has raised no objection to the outline application.

Wildlife and Countryside Act 1981 (WCA)

- I.6 The scheme would have no direct or indirect effect on Sites of Special Scientific Interest or National Nature Reserves.
- I.7 The scheme would have no direct effect on Local Nature Reserves (LNR). Given the site's position within the local ecological network, the scheme has potential to result in fragmentation of the network, specifically the link (albeit weak) northeast to Eastwood Farm LNR/SNCI. The allocation policy for the site (BSA1201) includes a requirement to "provide a green infrastructure link with Eastwood Farm Open Space to the north-east".
- I.8 Pre-application consultation with the Council's Nature Conservation Officer (Ecological Technical Appendix A) confirmed a minimum width of 10m would be considered acceptable but that design of the corridor was as important as width. The scheme would deliver a GI corridor with a minimum width of 12m along the southeast boundary of the site from W1, through W2 and to Broomhill Road. While the detailed design of the corridor is a reserved matter, the capacity of the corridor, confirmed by the illustrative Masterplan, allows for the creation of new species rich hedgerow, trees and diverse grasslands. This corridor provision would maintain and secure connectivity within the local network for Eastwood Farm LNR.
- I.9 Similarly, protection afforded to reptiles such as slow worm can be secured by appropriate avoidance and mitigation measures including exclusion or translocation. The Outline EcIA notes that the most appropriate mitigation solution for reptiles cannot be determined in the absence of details such as construction phasing, which are a reserved matter. The Outline EcIA considers options for exclusion and maintaining the slow worm population on site (preferred approach) or alternatively offsite translocation, including into the remaining SNCI. The Outline EcIA confirms the details required at the reserved matters stage to address reptile mitigation and includes recommendations for general working practices to avoid risk to reptiles. The Outline EcIA also recommends habitat creation measures for reptiles within the site (regardless of the final mitigation solution). The above details can be secured by a standard planning condition.
- I.10 The general protection afforded by the WCA to nesting wild birds can be secured through timing of works outside the nesting season; a matter that can be addressed by a standard planning condition.

Natural Environment and Rural Communities Act 2006 (NERC)

- I.11 Section 40 places a duty on public bodies, in exercising their functions to have regard to the purpose of conserving (and “enhancing”, following the amendment introduced by s102 of Environment Act, 2021) biodiversity.
- I.12 Section 41 (S41) of the NERC Act introduces refers to Species and Habitats of Principal Importance (SPI/HPI). On this site the native hedgerows fall into this category. The woodland affected by construction of the access road from Broomhill Road does not meet HPI criteria.
- I.13 The Outline EcIA includes a detailed appraisal of impacts on hedgerows at Table 7¹¹, and this is supplemented by further analysis of impacts on other outgrown field boundaries that were former hedgerows – see Chapter 6 of my evidence above and Drawing 2.
- I.14 The losses of hedgerow are considered to be unavoidable for access, adequate circulation and place-making. The appellant has made considerable efforts to retain hedgerows and field boundaries, with a final estimate of c50% requiring, or likely to require, removal.
- I.15 The NERC Act requirement for conservation and enhancement of HPI can be satisfied in this case by:
 - Ensuring that only unavoidable losses are authorised at outline and reserved matters stages;
 - Ensuring that where possible, the hedgerows that provide the relatively highest value for long-term ecological function, are retained, protected and incorporated into long term habitat management plans, including provision for further enhancement e.g. by additional understorey planting of a more diverse range of woody and ground flora species;
 - Ensuring a significant net increase in the length of native species-rich hedgerows in the proposed landscape.
- I.16 All the above measures are incorporated into the Appeal Scheme, as set out in the Outline EcIA.
- I.17 The following SPI would be affected by the development, with the impact assessment for these species set out in Section 5 of the Outline EcIA as follows:
 - Chapter 2 lists the legislation, policy and guidance engaged by the appeal scheme;

1 Outline Ecological Impact Assessment (TEP Ref 7507.20.066) – see page 40

- Common toad – see paragraph 5.43;
 - Slow worm – see paragraph section 5.43;
 - Passerine birds (dunnock, song thrush, house sparrow, greenfinch) - see paragraph 5.45;
 - Small heath butterfly – see paragraph 5.54;
 - Hedgehog – see paragraph 5.60;
 - Bats – see paragraph 5.65.
- I.18 Section 6 of the Outline EcIA provides a schedule of cross-cutting species and habitat conservation measures which would minimise the adverse effects of construction and operation, and ensure that the habitats retained or created on the Appeal Site were conserved and enhanced. Connectivity for wildlife into and across the Appeal Site would be maintained.
- I.19 As noted in Chapter 8 of my evidence, there would be a contraction in range for some species on site, but not displacement off site. The compensatory measures that can be implemented on the remaining SNCI would reduce the effects of range reduction.
- I.20 Taking account of the off-site improvements in the adjoining SNCI that would be triggered by granting of permission in accordance with the allocation policy, this would mean that all the SPI noted above would be conserved.
- I.21 The additional habitat creation and enhancement measures triggered by the 10% BNG commitment would also be likely to result in improvements for SPI in the locations that benefit (i.e. at locations beyond the Brislington Meadows SNCI). At this stage it is unknowable which SPI would benefit from such measures. However, in terms of the general duty for conservation and enhancement of biodiversity, I believe that the Inspector can discharge that duty at the outline stage, with confidence that planning conditions, submission of detail at reserved matters stages, and a legal agreement delivering 10% BNG will ensure HPI and SPI conservation and enhancement is secured.

Environment Act 2021 (EA21)

- I.22 The provisions of the EA21 are gradually coming into force.
- I.23 The extension of the NERC Act general duty on public bodies to conserve and enhance biodiversity is discussed above.
- I.24 In November 2023, the requirement for mandatory 10% BNG, using a Defra metric, is expected to come into force, although Government has

not formalised how this will apply to reserved matters applications pursuant to earlier outline approvals.

- I.25 Nevertheless, in this case, Homes England is committed to delivering at least 10% net gain through a combination of on and off site measures. The Outline BNGA^[2] and the November 2022 update (see Appendix B) apply Biodiversity metric 3.0 as this was the most current published version at the time of submission. In line with Natural England guidance^[3], it is not advised to switch metrics mid-project.

- I.26 The outline application identifies an adjusted^[4] net loss of c16.88 habitat area units on site and a net gain of c5.64 hedgerow units. The revised Outline BNG Assessment goes on to determine what additional off-site measures are required to achieve minimum 10% net gain on and offsite, summarised at Chapter 8 of my evidence. Offsetting is a recognised outcome of the BNG assessment process, when biodiversity unit shortfalls are calculated within the application area. Offsetting is also 'priced in' to the allocation policy BSA1201.

- I.27 The Environment Act introduces Local Nature Recovery Strategies (LNRS), a new system of spatial strategies for nature, covering the whole of England. The LNRS for Bristol is the West of England Nature Recovery Plan (NRP)^[5] (which uses desk-based spatial analysis at a regional scale).

- I.28 This NRP shows that the Appeal Site (red dot below on Figure I1) could potentially contribute to wider grassland and woodland objectives. The on-site proposals deliver woodland and grassland opportunities. The off-site enhancements at Brislington Meadows SNCI to the south would also deliver grassland and woodland enhancement.

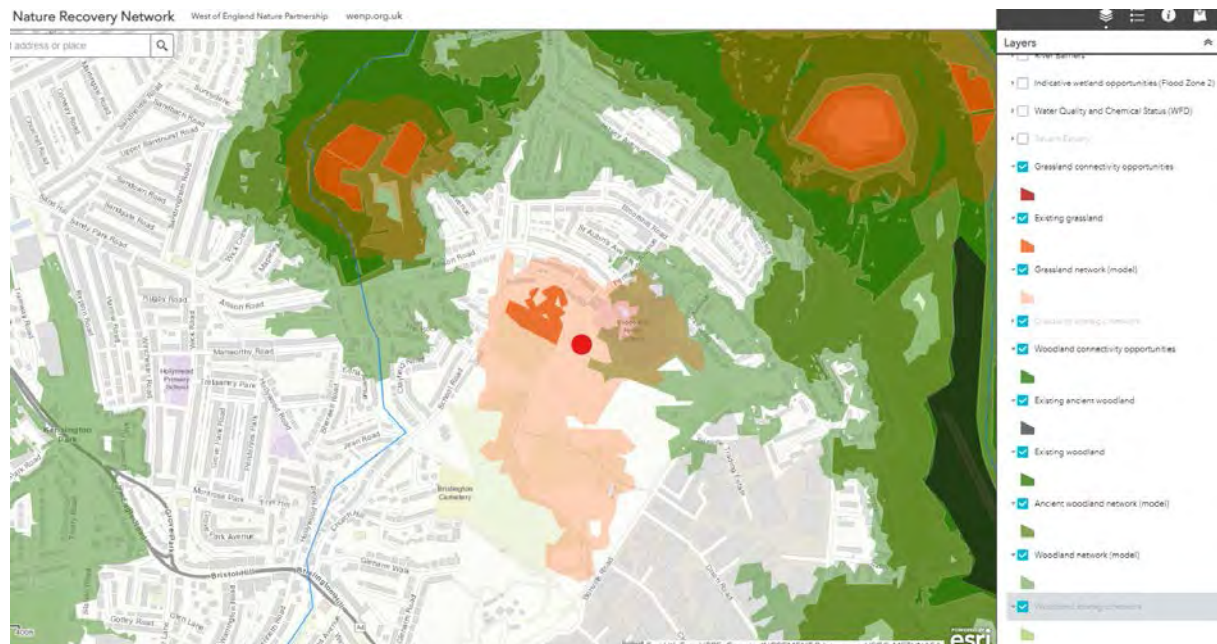
2 CD1.22: Outline Biodiversity Net Gain Assessment (TEP Ref 7507.20.070 v4, April 2022)

3 Natural England Biodiversity Metric 3.1 Frequently Asked Questions (refer to Section 2 Assessing the Metric Tool under "Which version of the Biodiversity Metric Should I Use?" on page 8)

4 The 'Headline Results' table in the revised Metric 3.0 have been adjusted to account for a precautionary position relating to retained habitats within the Application Site. Further explanation is presented at Appendix C.

5 West of England Nature Network map, accessed 21st December 2022 [Nature Recovery Network \(arcgis.com\)](https://arcgis.com)

Figure I1: extract from West of England Nature Recovery Plan showing Appeal Site location (red dot)



The Hedgerows Regulations 1997

- I.29 TEP's Outline EcIA and Historic Environment Report conclude that most hedgerows are of importance under the Regulations. However, that in itself does not preclude granting of planning permission. The purpose of the Regulations is to restrict landowners and occupiers from removing important hedgerows without consent from the Local Authority, but the Regulations do not apply to hedgerows which require removal under a planning permission.

The Protection of Badgers Act 1992

- I.30 This legislation aims to secure the welfare of badgers. It requires anyone who intends to carry out potentially disturbing works at or near a badger sett, such as excavation, to obtain a licence from Natural England. A licence will only be granted if works are carried out in line with a method statement that protects the animals. In this case, there is no main sett on or near site. The sett in H5 is currently assessed to be disused. A recently identified sett in H2 is presumed active at least sporadically. The Outline EcIA recommends further monitoring of the site for badgers, with any sett identified to be active and which cannot be avoided within finalised proposals requiring a licence from Natural England to disturb or temporarily or permanently close the sett prior to development commencing. There is no foreseeable reason why such a licence would not be granted. The parameters plans make provision for connectivity of badger habitat.

Other Strategies

Bristol Biodiversity Action Plan - Habitats of Principal Importance (HPI)

- I.31 Extensive botanical and habitat surveys have been completed at the site across two seasons. These have concluded the only HPI present within the site are the hedgerows. The iterative scheme design has sought to retain hedgerows where practical and viable and where important to retain green links and connections. However, some loss is inherent in the allocation of the site for development for c300 homes and other overriding constraints including topography, access and highways requirements mean it is not possible to retain all hedgerows.
- I.32 Hedgerow removal and retention priorities have been informed to the fullest extent possible by arboricultural and ecological surveys. Ecological mitigation is required for hedgerow replacement on site and the Outline BNG report identifies where opportunities lie within the illustrative masterplan.
- I.33 The BNG calculations conclude net gains for hedgerows well over the 10% target would be feasible. In total, the revised Outline EcIA (Appendix C) estimates that through retention and replacement hedgerow planting, this would result in a net increase of at least 347m hedgerows within the site (delivering net gain in hedgerow units).

Ecological Emergency Action Plan

- I.34 I provide a brief analysis, but this is without prejudice to Homes England's position that this is not a material consideration under S.70(2) of the Town and Country Planning Act 1990, which is considered by Mr Paul Connelly in his evidence
- I.35 The Ecological Desk Study^[6] summarises the objectives of the Council's Ecological Emergency Strategy and the cross-themed Ecological Emergency Action Plan. These are strategic documents and neither are explicitly focussed upon the impacts of development or development control measures. Of the four key goals, three might be considered to have some overlap with development control:
- 30% of land in Bristol to be managed for the benefit of wildlife: within the site, an area approximating 45% of the net area would be put to green space. While the majority will be multifunctional (i.e. not solely focussed on wildlife objectives), it and adjacent land uses would be

6 CD1.12a: Outline EcIA Technical Appendix A (TEP Ref 7507.20.039v2)

designed to ensure the GI provision is functional and beneficial for wildlife. Additional offsetting would be required which would be designed and managed solely for the benefit of wildlife.

- Reduce use of pesticides in Bristol by at least 50%: Future management plans adopted for on and offsite habitats delivered by the scheme could be agreed to adopt this measure.
- Waterways to have excellent water quality which supports healthy wildlife: the proposed scheme incorporates an extensive SUDS that will protect water quality and flows of downstream watercourses.

Appendix J

Aerial Photographs from 1938 to 1946

Brislington Meadows - Technical Note – Aerial Photographs 1938 to 1946

Project	Brislington Meadows	Author	Amir Bassir
Date	05/01/23	Checked	Tom Popplewell
Doc Ref	7507.43.023	Approved	Francis Hesketh
Version	1.0	Purpose	To provide a commentary on hedgerow and field management in the period 1938 to 1946

1.0 Analysis of aerial photographs

- 1.1 A range of aerial photographs dating to the late 1930s and the 1940s are held in online archives, principally Historic England's photographic archive¹, Britain from Above², and Bristol City Council's 'Know Your Place' online mapping portal³. These include several photographs taken of the Brislington meadows site and its immediate environs and can be analysed to provide information relating to land use and conditions, as well as to demonstrate historic changes at the site.
- 1.2 The 1938 photographs were taken as part of a single flight and provide oblique views from the south and west. The flight was undertaken in sunny conditions in January which enables a good definition of landscape features including shadows cast by trees. The photographs demonstrate that the area of Brislington Meadows and immediate surrounding areas up to the River Avon remained predominantly agricultural with the beginnings of residential development in the area of the former Commons around Broomhill Road.
- 1.3 It is evident that the hedgerow network within the Brislington Meadows site was well-maintained and the site was in agricultural use. Small groups of cows within the fields demonstrate pastoral use of at least parts of the site. Faint paths lead through the fields indicating areas of access through the hedges for cattle movement. The allotments which presently occupy only a single field at the west of Brislington Meadows, at this time also occupied the field to the north which forms the western parcel of the development site.
- 1.4 The hedgerows show a uniformity of height and width with no areas of overgrowth, demonstrating that were under active maintenance and trimmed or clipped. Available points of comparison, such as nearby houses and sheds in the adjacent allotments suggests that the hedgerows were kept at a consistent height of approximately 2m. 1938 aerials show some quite wide gaps in hedges G25 and G26 (ecology hedges 3 and 4) which suggest that cattle were allowed to move through these hedges.

¹ [Find Photos in the Historic England Archive | Historic England](#)

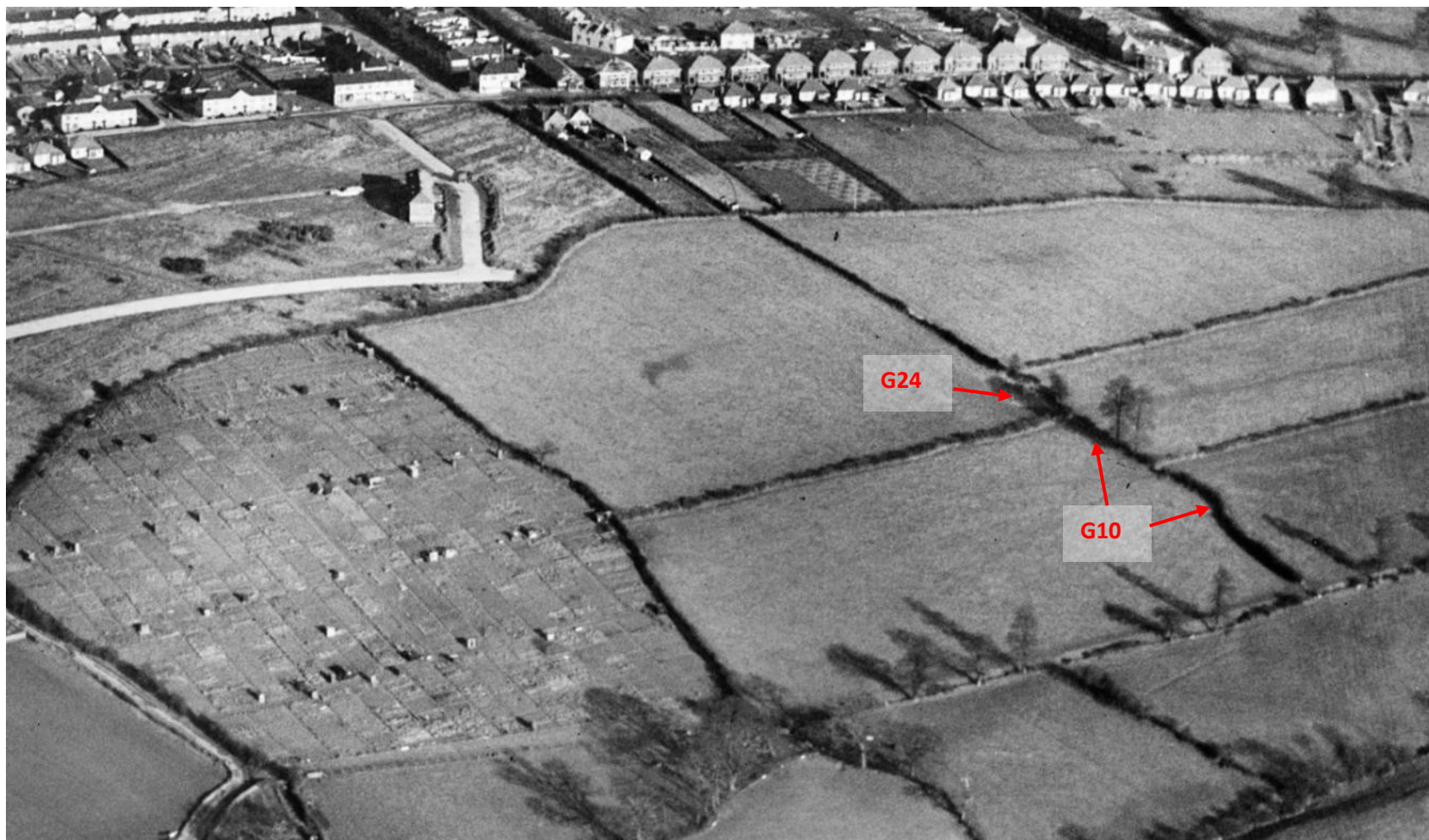
² [Britain From Above](#)

³ [Know Your Place - Bristol](#)

- 1.5 Very few trees can be seen within the hedgerows, however the southern site boundary alongside the footpath includes a greater number of trees set at semi-regular intervals. A small structure or caravan is located at the intersection of hedgerows G20 and G24 and there are two large trees and some smaller trees on the N-S hedgerows, G10 and G24. These have since been felled, probably due to Dutch Elm disease.
- 1.6 Trees as depicted on Ordnance Survey mapping are not reliably accurate, rather they are indicative of the general character. Nevertheless, several trees visible on the 1938 aerial views appear to be shown in their correct locations on the first edition OS map (1884). These include two large trees and a smaller tree within hedgerows G10 and G24. These have now been removed.
- 1.7 Also, an isolated tree which may correspond with current T26 is seen on the 1884 OS map and is visible on 1938 to 1946 aerials. The trees along the southern site boundary on the 1884 map do not appear to correspond with locations of trees visible in 1938 aerials. It is possible that individual isolated trees were accurately plotted by OS, whereas groups and lines of trees are plotted more indicatively; it is also possible that some trees shown on the map had been removed by 1938.
- 1.8 Vertical photographs taken on 29/09/1941 and 14/04/1946 provide a wider view of the site but in lower resolution. The hedgerows appear to be under continued maintenance with no obvious sign of outgrowth and the trees visible on the previous photographs remain standing. The south section of hedgerow G10 appears to be slightly denser and wider than other hedgerows.
- 1.9 A circular feature resembling a bomb crater can be seen south of the site and a possible two further bomb craters may be present within the site on hedge G20 and adjacent to hedge G26 on its south side. Other possible bomb craters are visible in the wider area.
- 1.10 Whether due to access to make the bomb crater safe or whether due to agricultural activity and widening of field accesses, G24 was clearly used for east-west access between 1938 and 1946, with removal of some hedge and the smaller trees visible in 1938 photos along with ground disturbance evident.
- 1.11 Examination of the aerial images demonstrates that the site was in agricultural use during the period of the 1930s and 1940, and there was ongoing and active maintenance of the hedgerows which were kept at a fairly uniform height and clipped to a consistent width. A very small number of trees, some which remain standing, were scattered among the hedgerows. Comparison with modern aerial views demonstrates that following cessation of agricultural use of the fields and maintenance of the hedgerows in the mid to late 20th century the hedgerows became significantly outgrown from their original alignments.



First edition OS, 1844-88, 25", [Know Your Place - Bristol](#)



EPW056313, flown 24/1/38, [EPW056313 - Aerial Photo | Historic England](#), ©Historic England



EPW056314, flown 24/1/38, [EPW056314 - Aerial Photo | Historic England](#) ©Historic England



EPW056304, 24/1/38, [EPW056304 ENGLAND \(1938\)](https://www.britainfromabove.org.uk/image/EPW056304). Broom Hill, Brislington, from the south-west, 1938 | Britain From Above



raf_hla_313_rv_0610, flown 29/09/1941, ©Historic England [raf_hla_313_rv_0610 - Aerial Photo | Historic England](#)



RAF_106g_uk_1415_rp_3007, flown 14/04/1946, [raf_106g_uk_1415_rp_3007 - Aerial Photo | Historic England](#), ©Historic England



2012 aerial view, © [Know Your Place - Bristol](#)

Appendix K

Statement of communications between witnesses on veteran hawthorns

Brislington Meadows - Statement of communications between witnesses on veteran hawthorns

Project	Brislington Meadows	Author	Francis Hesketh
Date	09/01/22		

1 Case Management Conference (CMC) 14th December 2022

At the CMC, the Council indicated it had appointed an expert witness who had identified veteran trees on site.

As this was new information, immediately following the CMC of 14/12/22, the appellant's witness Francis Hesketh (FH) asked Lucy Aspden (LA) of LDA-Design if he could contact the Council's ecology and arboriculture witnesses to find out about the extra veteran trees mentioned at CMC.

BCC provided contact details for Julian Forbes-Laird (JFL- Arb) and Rupert Higgins (RH - Eco) at 17:32pm on 15/12/22

2 Telephone Conversation around 9am on 16/12/22

FH contacted JFL by phone. They exchanged email addresses and used that to share some historical maps by email. Over the phone FH summarised the extra archival research by TEP's heritage team that gives extra confidence to the view that the hedges are "enclosure-period" and emailed the relevant maps (which are included in Appendix D of FH's proof).

During the call, JFL said he had seen some veteran hawthorns and emailed a pdf file (See Annexe 1) which contained two photos of alleged veteran hawthorns. FH asked where these were on site. JFL said he couldn't precisely locate them on plan during the phone conversation, but would do so.

JFL also stated he couldn't access deep into some hedges so he may wish to identify additional veterans at a later date. JFL asked if the appellant could arrange for some strimming to gain access to hawthorns as soon as possible. FH said he'd inquire of Homes England.

JFL noted he was going on leave that evening (i.e. after close of play 16th December) and would return on 4th January.

3 Emails 16/12/22

At 13:47pm on 16/12/22, FH emailed JFL with a plan showing the consolidated Arboricultural Implications Assessment with a view to agreeing it as common ground. FH also asked if JFL would mark up the alleged veteran hawthorns, specifically the two in the photos. FH offered a telephone call if JFL wished. (See Annexe 2)

At 14:34pm on 16/12/22, FH emailed JFL and RH with a bundle of material that might be agreed as common ground on ecology and arboriculture, including the consolidated AIA and a November 2022 ecology survey update. (See Annexe 3)

JFL had not replied by close of play on 16/12/22

4 Email 17/12/22

At 11:58am on 17/12/22, FH emailed JFL to follow up on the emails of 16/12/22 as there had been no reply. FH also advised he was hoping to get a contractor to trim in w/c 2nd January. FH offered a call on 17 and 18th December if JFL wished. An “out-of-office” response was received from JFL.

5 Emails 18/12/22

At 10:42am on 18/12/22, RH emailed FH to confirm factual agreement on the ecology documents sent in the bundle of 16/12/22 14:34pm. FH replied to RH at 11:37am, to ask if he knew where the alleged veteran hawthorns might be.

At 11:53am on 18/12/22, RH emailed to say he didn't have a plan of the two hawthorns in JFL's photos, but he knew they were “towards the northern end of G10 and within G24.”

6 Emails 4/1/23

JFL replied to FH's email of 16/12/22 noting that the Council Tree Officer had been visiting site to look at hawthorns. FH confirmed a contractor had been arranged to trim on 5/1/23. JFL confirmed he would not be attending site but the Tree Officer would be and would point out areas where strimming would be helpful to gain access. (See Annexe 4)

JFL later issued a location plan of 6 alleged veteran hawthorns which were inspected by TEP's Arboricultural Consultant, Tom Popplewell during his site visit on the 5/1/23, along with 2 other hawthorns.

7 Email 6/1/23

JFL issued a plan showing 11 veteran hawthorns noting they were reasonably accurate but not precisely geo-referenced

Francis Heskeith, TEP

9th January 2023

Annexe 1: Email JFL to FH 16th December enclosing pdf photo of 2 hawthorns

Francis Hesketh

From: Julian Forbes-Laird <jfl@flac.uk.com>
Sent: 16 December 2022 09:19
To: Francis Hesketh
Subject: Veteran hawthorns
Attachments: FLAC 42-1061 Veteran hawthorns_compressed.pdf



And again...

Julian Forbes-Laird BA(Hons), Dip.GR.Stud, MICFor, MRICS, MEWI, Dip.Arb(RFS)
• Chartered Arboriculturist • Chartered Surveyor • Member of the Expert Witness Institute
UTA Licensed Lecturer, Karlsruhe Institute of Technology
Senior Director & Principal Consultant, FLAC

01767 641648
07813 786283

www.flac.uk.com

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Annexe 2: Email FH to JFL 16th December enclosing plan and asking for mark up of location of the two hawthorns

Francis Hesketh

From: Francis Hesketh
Sent: 16 December 2022 13:47
To: Julian Forbes-Laird
Subject: BM - Tree Removal and Retention Plan
Attachments: D7507.43.001 Brislington Meadows , Bristol - Tree Removal and Retention Overview.pdf

Categories: Saved to TEPSP13

Hi Julian, here is a consolidated AIA drawing – we were asked to do an AMS/TPP for the two access routes to firm up exactly what trees would unavoidably be removed for the main road in from Broomhill Road and the proposed cycleway upgrade onto School Road. As there was also some confusion over TPO numbers, I have pulled together all AIA and TPO information onto this consolidated plan which I'm hoping we can use as the basis for agreement.

Following our con this morning re veteran hawthorns, please could you mark up where you believe them to be? You did send 2 photos and if you can let me know where they were that would be splendid.

You mentioned you were on leave next week and the 3rd Jan, so it would be really appreciated if you could send us something this afternoon.

Do call if helpful.

I can also send some other material I am hoping to agree as Common Ground, mainly ecology and hedgerows. I've not heard back from the ecology witness yet about whether he wishes a call so I can introduce myself and talk about material we are preparing.

I will send as much as I can across soon, in case you did want to look at it this afternoon

Fran

Francis Hesketh MCIEEM
Director
Ecology

01925 844041
07956 114395

Annexe 3: Email FH to JFL and RH 16th December enclosing a bundle of material for review and agreement as common ground

Francis Hesketh

From: Francis Hesketh
Sent: 16 December 2022 14:34
To: rupert@wessexeco.co.uk; jfl@flac.uk.com
Cc: Lucy.Aspden@lda-design.co.uk
Subject: Brislington Meadows Ecology and Arboriculture Common Ground Material

Large File Send Sent Files



You shared files with rupert@wessexeco.co.uk jfl@flac.uk.com Lucy.Aspden@lda-design.co.uk.

File(s):

Appendix C 7507.43.006_BNG_assuming_SNCI_301122.xlsm
Appendix C BNG and EclA Update Nov2022.pdf
Appendix E Arboricultural Method Statement Points of Access.pdf
Appendix F BTRS calculation x7507.43.001.xlsx
Drawing 1 Tree Removal and Retention Overview.pdf
Drawing 2 Habitat and Hedgerow Impacts.pdf
Appendix B Ecology Survey Update November 2022.pdf

Dear Rupert and Julian – following our calls earlier, I’m sending you a bundle of material which it would be useful to agree as common ground, either in their current format or amended following dialogue between ourselves.

1. An ecology survey update which confirms the site is not materially different from when the application was submitted (desktop and walkover update) – see document labelled Appx B
2. A Revised BNG Metric which proceeds on the basis the SNCI is in place - see spreadsheet labelled Appx C
3. Update to the EclA and BNG reports based on the above two documents - see document labelled Appx C
4. Research from our heritage team about the age of the hedges – further archival search adds weight to the evidence they are private enclosures from the Enclosure period, which is in line with what we earlier stated as our best estimate [This isn’t attached as we got some more material in this morning from BTF that we want to include in the response ... but in essence we’d be comfortable agreeing they are enclosure hedges formed by private enclosure in mid-to-late c18]
5. A consolidated hedgerow and habitats impacts plan – this to bring together all the different hedge and field boundary numbering systems, and has been produced to help the inquiry – see Drawing 2
6. An Arb Method Statement and Tree Protection Plan for the points of access (in response to Tree Officer’s comments) – see doc labelled Appx E
7. A consolidated AIA drawing, produced to help the inquiry – see Drawing 1
8. Numbers of trees required under the Bristol Tree Replacement Standard – see spreadsheet labelled Appx F

Apologies for the rather jumbled nomenclature – these Appendices are labelled in terms of where they sit in the current draft of my evidence

As mentioned before, if you want to call at any time for clarification, do let me know.

Fran

Annexe 4: Email correspondence JFL/FH 4th January 2023 regarding proposed site visit on 5th January and location of veteran hawthorns

Francis Hesketh

From: Julian Forbes-Laird <jfl@flac.uk.com>
Sent: 04 January 2023 11:57
To: Francis Hesketh
Cc: Rupert Higgins (rupert@wessexeco.co.uk); Matthew Bennett
Subject: RE: BM - Tree Removal and Retention Plan

Hello Francis. Alas I cannot attend the site tomorrow, but in copy is Matthew Bennett, the case arboricultural officer, who can. Matt has been doing great work accessing areas of hedgerow and he can assist in identifying others where some careful access facilitation clearance would be helpful.

I will respond later with a plan showing what we know to date.

Best wishes,

Julian.

Julian Forbes-Laird BA(Hons), Dip.GR.Stud, MICFor, MRICS, MEWI, Dip.Arb(RFS)
• Chartered Arboriculturist • Chartered Surveyor • Member of the Expert Witness Institute
VTA Licensed Lecturer, Karlsruhe Institute of Technology
[Senior Director, FLAC](#)

01767 641648
07813 786283

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From: Francis Hesketh <FrancisHesketh@tep.uk.com>
Sent: 04 January 2023 11:50
To: Julian Forbes-Laird <jfl@flac.uk.com>
Cc: Rupert Higgins (rupert@wessexeco.co.uk) <rupert@wessexeco.co.uk>
Subject: RE: BM - Tree Removal and Retention Plan

Good morning Julian,

Can you confirm if you will be attending site tomorrow and if you want to use the services of the contractor to trim and gain access to the hedges? He is lined up for tomorrow morning.

You imply that we did not consider the possibility of veteran hawthorns, which isn't correct. There was a meeting on site with Matthew Bennett where we presented the tree survey as part of the TPO process. The Tree Officer accepted the survey and, whilst I was not at the meeting, I understand that hawthorns were discussed and he pointed out the value of them for nectaring and self-regeneration, but not in the context of veteran characteristics. The site meeting was held on 6th October 2020. Attendees were Richard Sewell (BCC Planning Officer), Matthew Bennett (BCC Tree Officer), John Boutwood (Homes England), Paul Connelly (LDA), Spencer Powell (LDA), Angus Blankenstein (TEP), Dr Rachel Roberts (TEP) and Tristan Tucker (CampbellReith). It was following that site meeting that Matthew confirmed the provisional TPO 1400 was not to be confirmed and a new TPO1404 would be served.

Have you looked at the Historic England website for aerial photos; there are some very good photos from an oblique flight in 1938 and a rather more grainy but still adequate vertical flight photo in 1946. These are very useful in dating when hawthorns might have stopped being cut regularly.

The hawthorns were considered in light of tree and eco survey information and not considered to be veterans; nevertheless accepting their maturity and ecological value. This was, we understood until very recently a position the Council accepted. Of course we will look again at this, but will need information on which hawthorns are now in

question. You'll understand my frustration that it was not until 23rd December that I received written confirmation that the Council considered two hawthorns in G10 and G24 to be veterans, although Rupert had kindly indicated that was likely to be the case on the 18th December.

Obviously I hope we can reach early agreement on at least which hawthorns are in question, and which veteran characteristics/qualities/features are present; even if we do not agree whether the veteran threshold is met – if you are on site tomorrow, I may be able to organise one of our veteran specialists to meet you. In any case, I look forward to receiving the location plan for the hawthorns.

Best wishes

Francis

Francis Hesketh MCIEEM
Director
Ecology

01925 844041
07956 114395

From: Julian Forbes-Laird <jfl@flac.uk.com>
Sent: 04 January 2023 09:41
To: Francis Hesketh <FrancisHesketh@tep.uk.com>
Cc: Rupert Higgins (rupert@wessexeco.co.uk) <rupert@wessexeco.co.uk>
Subject: RE: BM - Tree Removal and Retention Plan

Dear Francis,

HNY. I am back from leave and am working through correspondence.

At my request the Tree Officer has returned to the site to try and access further sections of hedgerow to hunt for additional veteran trees. He has found four, all hawthorns. I will be working to map their location during the course of today, together with the other two previously advised.

Tree 5 in the survey is also a veteran: old pollard with major dead wood, hollowing, dry habitat spaces and extensive decay. Rather a no-brainer really.

Will revert soonest with further information. I must say it's a bit rum that I'm having to sort this out for you folks but we are where we are, eh?

Best,

Julian.

Julian Forbes-Laird BA(Hons), Dip.GR.Stud, MICFor, MRICS, MEWI, Dip.Arb(RFS)
• Chartered Arboriculturist • Chartered Surveyor • Member of the Expert Witness Institute
VTA Licensed Lecturer, Karlsruhe Institute of Technology
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From: Francis Hesketh <FrancisHesketh@tep.uk.com>
Sent: 16 December 2022 13:47

To: Julian Forbes-Laird <jfl@flac.uk.com>

Subject: BM - Tree Removal and Retention Plan

Hi Julian, here is a consolidated AIA drawing – we were asked to do an AMS/TPP for the two access routes to firm up exactly what trees would unavoidably be removed for the main road in from Broomhill Road and the proposed cycleway upgrade onto School Road. As there was also some confusion over TPO numbers, I have pulled together all AIA and TPO information onto this consolidated plan which I'm hoping we can use as the basis for agreement.

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You mentioned you were on leave next week and the 3rd Jan, so it would be really appreciated if you could send us something this afternoon.

Do call if helpful.

I can also send some other material I am hoping to agree as Common Ground, mainly ecology and hedgerows. I've not heard back from the ecology witness yet about whether he wishes a call so I can introduce myself and talk about material we are preparing.

I will send as much as I can across soon, in case you did want to look at it this afternoon

Fran

Francis Hesketh MCIEEM
Director
Ecology

01925 844041
07956 114395



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Appendix L

Statement on Veteran Trees and Site Visit of 5th January 2023

Ecology and Arboriculture Proof of Evidence **Appendix L**

Statement on Veteran Trees and Site Visit of 5th January 2023

Tom Popplewell BSc (Hons) MICFor

Brislington Meadows, Bristol
PINS Ref. APP/Z0116/W/22/3308537

Prepared for: Homes England

Document Reference: 7507.43.032

January 2023

TEP
Genesis Centre
Birchwood Science Park
Warrington
WA3 7BH

Tel: 01925 844004
Email: tep@tep.uk.com

Offices in Warrington, Market Harborough, Gateshead, London and Cornwall

Project Name:	Brislington Meadows
Location:	Bristol
Document Title:	Statement on Veteran Trees and Site Visit of 5 th January 2023 (Appendix L to Proof of Evidence – Ecology and Arboriculture)
Client:	Homes England
Report Prepared:	Tom Popplewell
Prepared by:	The Environment Partnership Ltd
Office:	Warrington
Document Ref:	7507.43.032

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Summary of Evidence

Qualifications and Experience of Witness

- 1.1 Tom Popplewell is an Arboricultural Consultant and an Associate at TEP. He has a first-class honours degree in arboriculture and is a chartered arboriculturist.
- 1.2 Tom has thirteen years' professional experience in arboricultural consultancy, in addition to previous experience in practical arboriculture.
- 1.3 Principally, he works on arboriculture within planning, development and construction, including experience spanning hundreds of developments. He has given expert witness evidence at planning inquiries and examinations, including for nationally significant infrastructure projects. He also has responsibilities for quality, staff and business management across a team of 12 arboriculturists at TEP.

Key Documents

- 1.4 7507.21.001 Arboricultural Impact Assessment (Version 1.0, March 2022)^[1]
- 1.5 Drawing 1: Consolidated Arboricultural Impact Assessment^[2]
- 1.6 Parameters Plans and Illustrative Masterplan^[3]
- 1.7 FLAC plan VHLP 42-1061.01 (Annex 1)
- 1.8 FLAC plan VHLP+AI 42-1061.01 (Annex 2)
- 1.9 National Planning Policy Framework 2021
- 1.10 Natural England and Forestry Commission standing advice *Ancient woodland, ancient trees and veteran trees: advice for making planning decisions*^[4]
- 1.11 British Standard 5837:2012 Trees in relation to design, demolition and construction Recommendations^[5]
- 1.12 English Nature Veteran Trees Initiative Specialist Survey Method
- 1.13 Ancient and other veteran trees: further guidance on management (Lonsdale, D. (Ed.) 2013)

Context and scope

- 1.14 The scope was agreed in pre-application discussions with BCC, to inform requirements of the allocation policy (grasslands, important trees and hedgerows), and other relevant development management policies.
- 1.15 A tree survey was carried out in 2020, and discussed with the Council Arboricultural Officer on site in October 2020 as the Council was preparing to serve a TPO. At the time, the Officer remarked that TEP's categorisation of high (A) and moderate (B) trees broadly aligned with those being considered for the TPO ^[6].
- 1.16 The BCC Committee Report made no challenge to the survey findings.
- 1.17 During dialogue between witnesses on 16th December 2022, it came to light that the Council regarded T5 as a veteran. This was confirmed in correspondence from the Council on 23rd December, along with two hawthorns, within G10 and G24 respectively.
- 1.18 A late assertion of additional veteran trees (6 hawthorns) was made on 4th January 2023 without supporting evidence. The approximate location of these trees was shown on a plan provided by FLAC ^[7]. The locations were presented as preliminary.
- 1.19 A site visit was undertaken on 5th January 2023 to locate and inspect the hawthorn trees identified by the FLAC plan. Trees in the locations provided were accessed.
- 1.20 The commonness of hawthorn on the site, and lack of supporting descriptions or images means that identification of the alleged veteran hawthorns was not certain in every case. Evaluation of individual trees is therefore deferred to rebuttals in order to present evidence with reference to a clear plan and referencing system.
- 1.21 Matthew Bennett (BCC Tree Officer) was also present on the site during 5th January. Some clearance of vegetation (principally brambles) was undertaken at his direction to allow access to tree groups/hedges as per his requirements. Inspection of trees was not coordinated or discussed between the parties and was done entirely separately.

- 1.22 Following the site visit, a revised FLAC plan^[8] was produced on 6th January alleging 11 veteran hawthorns. These include the 6 hawthorns shown on the earlier plan, and an additional 5. It is presumed that these additions are the result of Mr Bennett's assessment on 5th January.
- 1.23 Incidental observations were made of 2 of the additional 5 hawthorns as part of a site walkover, but a full assessment was not made of any of these trees. Their locations and alleged veteran status were not known until after the site visit was complete.

Further assessment of potential veteran trees

- 1.24 Two oak trees (T5 and T6) and six hawthorn trees (as per FLAC plan VHLP 42-1061.01) were visited and assessed from ground level. There were no restrictions to access except in relation to the oak trees, which are on the site boundary and access to their southern side was not possible.
- 1.25 Detailed observations were made, including the recording of features and characteristics of each tree that could contribute or add weight to the hypothesis that it is a veteran.
- 1.26 Trees were assessed against the relevant definitions, which are at NPPF Annex 2 (page 64) and within Natural England and Forestry Commission standing advice. *British Standard 5837:2012, Ancient and other veteran trees: further guidance on management* and England Woodland Biodiversity Group criteria for recognition of veterans^[9] were also considered.
- 1.27 Tree stem diameters/girths were measured in accordance with *British Standard 5837:2012 Annex C. English Nature Veteran Trees Initiative Specialist Survey Method*^[10] was also considered.

Initial conclusions

- 1.28 The previous assessment that T6 is a veteran (oak) was corroborated.
- 1.29 The previous assessment that T5 is not a veteran (oak) was corroborated. It has features of interest and represents a good candidate to become a veteran tree in the future. This outcome could be promoted, and possibly accelerated by management decisions.

- 1.30 The 6 hawthorn trees are mature and have some veteran characteristics. At the population level, the site has an assemblage of characteristics with interest for biodiversity, culture and heritage. It also presents a good opportunity to generate future veteran hawthorn trees. However, these characteristics tend to be limited to a small number per tree and the assemblage of veteran characteristics falls short of the quality and complexity to mark any individual tree as a veteran.
- 1.31 From an initial assessment, it is concluded that there is one veteran tree on the site (T6) and that, while they have material quality and features of conservation interest, none of the hawthorn trees are veterans.
- 1.32 The survey found that many of the veteran characteristics that are present within the wider tree population can be conserved within the development, including by translocation and other mitigation measures in the case of trees that would be removed.
- 1.33 In recognition of the quality of tree T5, the submitted Parameter Plans can be amended to extend the buffer zone around T6 to also form a suitable buffer zone around the adjacent tree T5. This is demonstrated in an appendix to Charles Crawford's proof of evidence by way of an updated Parameter Plan.
- 1.34 Management of the remaining trees following development could be designed to promote the development of future veteran trees, principally by the protection and favourable management of oak and hawthorn trees that are already developing in that direction.

¹ CD1.19 Arboricultural Impact Assessment (TEP Ref 7507.21.001)

² Refer to Drawing 1 appended to Francis Hesketh Proof of Evidence

³ Appendix 1 to Mr Crawford's Proof of Evidence contains Updated Parameter Plans

⁴ CD8.10: Natural England/ Forestry Commission 'Standing Advice' Ancient woodland, ancient trees and veteran trees: advice for making planning decisions

⁵ CD8.9: British Standard 5837:2012 Trees in relation to design, demolition and construction Recommendations

⁶ CD8.7: TPO1404 Land at Broom Hill

⁷ FLAC VHLP 42-1061.01

⁸ FLAC VHLP+AI 42-1061.01

⁹ England Woodland Biodiversity Group criteria for recognition of veterans, which is used in [*Biodiversity Metric 3.1 - Habitat Condition Assessment Sheets with Instructions \(18.05.22\).pdf*](#) for condition assessment of woodland habitats – refer to e.g. Sheet 15 (Line of trees) – Footnote 2 or Sheet 22 (Urban Trees) – Footnote 3

¹⁰ FAY, N. AND DE BERKER, N. (1997) Specialist Survey Method. Veteran Trees Initiative, English Nature. Peterborough

Annex 1

FLAC plan VHLP 42-1061.01



VH6

VH1

VH3

VH2

VH5

VH4

Annex 2

FLAC plan VHLP+AI 42-1061.01



HEAD OFFICE	MARKET HARBOROUGH	GATESHEAD	LONDON	CORNWALL
Genesis Centre, Birchwood Science Park, Warrington WA3 7BH	The Reynard Suite, Bowden Business Village, Market Harborough, Leicestershire, LE16 7SA	Office 26, Gateshead International Business Centre, Mulgrave Terrace, Gateshead NE8 1AN	8 Trinity Street, London SE1 1DB	4 Park Noweth, Churchtown, Cury, Helston Cornwall TR12 7BW
Tel: 01925 844004 E-mail: tep@tep.uk.com	Tel: 01858 383120 E-mail: mh@tep.uk.com	Tel: 0191 605 3340 E-mail: gateshead@tep.uk.com	Tel: 020 3096 6050 E-mail: london@tep.uk.com	Tel: 01326 240081 E-mail: cornwall@tep.uk.com