



Brislington Meadows, Bristol

ECOLOGICAL TECHNICAL APPENDIX E

Habitat Condition Assessment (Biodiversity Metric 3.0)

7507.20.011

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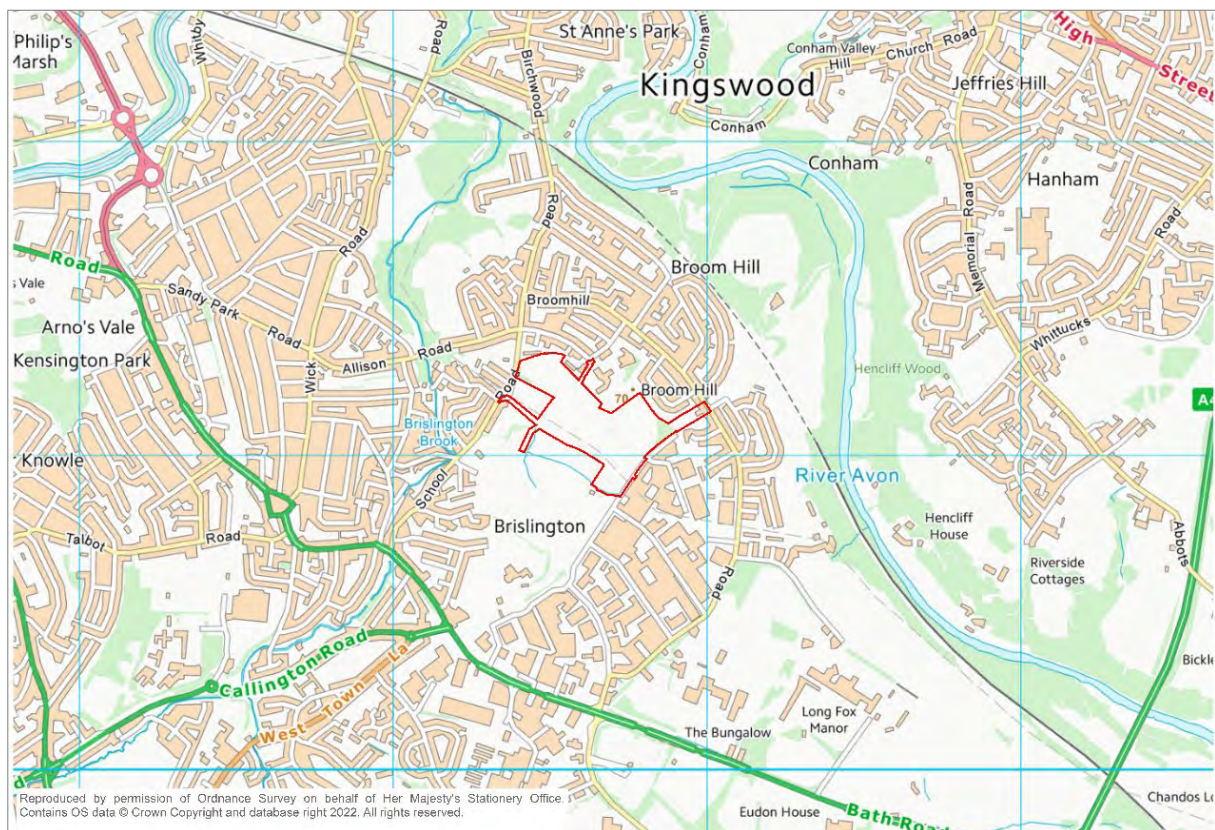
## Drawings

Drawing G7507.20.012	Habitat Condition Assessment
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## 1.0 Introduction

- 1.1 The Environment Partnership (TEP) was commissioned in August 2020, by Campbell Reith on behalf of Homes England, to complete an Ecological Impact Assessment (EclA) for the site known as Brislington Meadows (hereafter referred to as 'the site').
- 1.2 The central grid reference of the site is approximately ST 626 711 and the location of the site is shown in Figure 1.

Figure 1: Site Location



- 1.3 To inform the EclA, a suite of habitat and botanical surveys have been undertaken. A separate Biodiversity Net Gain (BNG) assessment has also been completed for the proposed development (TEP Ref 7507.20.018).
- 1.4 This Ecological Technical Appendix presents the findings of habitat condition in support of the EclA and BNG assessments.

## 2.0 Methods

- 2.1 TEP completed a habitat survey applying the UK Habitat Classification System (UKHAB)<sup>1</sup> in July and September 2020. Details of the survey and Target Notes compiled for habitats occurring across the site are presented at Ecological Technical Appendix B. The habitat survey and subsequent updates were completed by two TEP ecologists certified to Level 4 under the Field Identification Skills Certification (FISC)<sup>2</sup>.
- 2.2 Hedgerow assessment was completed in May 2021 and a grassland walkover survey in May 2021 followed by a grassland National Vegetation Classification (NVC) survey in July 2021. Details of these surveys, undertaken by a TEP ecologist certified to FISC Level 5, are presented at Ecological Technical Appendices C and D. These surveys were reviewed and used to further refine the habitat survey findings.
- 2.3 The habitat survey findings have been reviewed and refreshed during further subsequent sites visits up to and including January 2022.
- 2.4 Botanical data were collated from all the above field work and compiled into 'target notes'. Target notes areas are identified on Drawing G7507.20.058, alongside associated field, hedgerow and woodland identification reference numbers.
- 2.5 Habitat parcels, comprising discrete mapped areas of the same habitat type of the same condition, are also identified on this drawing and cross-referenced for each target note area in Ecological Technical Appendix B. Habitat condition assessments have been completed for each individual habitat parcel mapped during the habitat surveys.
- 2.6 Habitat condition assessments of habitats across the site were initially completed alongside the habitat surveys in July and September 2020. The condition assessments were then reviewed and updated according to findings from the later hedgerow and grassland surveys completed in 2021 and subsequent site visits.
- 2.7 The habitat condition assessments were completed in accordance with the guidance published by Natural England for Biodiversity Metric version 3.0<sup>3</sup>.

<sup>1</sup> Butcher, B., Carey, P., Edmonds, R., Norton L. and Treweek, J. (2020) The UK Habitat Classification System User Manual Version 1.1. at <http://www.ukhab.org/>

<sup>2</sup> A national skills certification scheme operated by Botanical Society of Britain and Ireland. FISC 4 is the competency level recommended for Biodiversity Net Gain (BNG) field assessments, FISC 5 is recommended for National Vegetation Classification (NVC) survey

<sup>3</sup> Panks, S., White, N., Newsome, A., Potter, J., Heydon, M., Mayhew, E., Alvarez, M., Russell, T., Scott, S.J., Heaver, M., Scott, S.H., Treweek, J., Butcher, B. and Stone, D. (2021) Biodiversity metric 3.0: Auditing and accounting for biodiversity – User Guide. Natural England. Technical Supplement at: <http://publications.naturalengland.org.uk/file/4739529476145152>



## 3.0 Habitat Condition Assessment

- 3.1 The results of the habitat condition assessment (applying Biodiversity Metric 3.0 guidance) are illustrated in Drawing 7507.20.012.

### Grasslands

- 3.2 Grassland habitat types recorded at the site are summarised at Table 1. For clarity, small areas of tall ruderal and ephemeral/ruderal which are generally associated with adjacent grassland, are classified as g3 and are assessed under the criteria for 'other neutral grassland' in accordance with the guidance.
- 3.3 The exception made to this approach is for three areas of largely monoculture stands of rosebay willowherb or Japanese knotweed that are located within woodland W2. They lack woodland canopy overhead and consequently were distinguished as separate habitat parcels from the surrounding woodland habitat. However, recognising their very limited floristic diversity, the tall ruderal stands are categorised as g4 modified grassland to provide a balanced distinction between these features and other areas of mixed tall herb or neutral grasslands elsewhere within the site.

Table 1: Record of grassland habitats types (g) within the site

UKhab	UKHab type	Typical Phase 1 <sup>4</sup> equivalent(s)
g3,16	Neutral grassland – tall herb	Tall ruderal herb (C31)
g3,17	Neutral grassland – ephemeral	Ephemeral/short perennial (J13)
g3c	Other neutral grassland	Semi-improved neutral grassland (B22) Amenity grassland (J12) (if sufficient diversity)
g3c5	Arrhenatherum neutral grassland	Semi-improved neutral grassland (B22)
g3c6	Lolium-Cynosurus neutral grassland	Semi-improved neutral grassland (B22)
g3c8	Holcus-Juncus neutral grassland	Semi-improved neutral grassland (B22) Marshy grassland (B5)
g4	Modified grassland	Poor semi-improved grassland (B6) Amenity grassland (J12)
g4,16	Modified grassland – tall herb	Tall ruderal (single species dominant)
g4,16,47	Modified grassland, non-native	Tall ruderal (Japanese knotweed)

### g3 Grassland – neutral grasslands

- 3.4 The habitat type 'other neutral grassland' (UKHab g3c and sub-types) is determined under the Biodiversity Metric 3.0 guidance to be of medium distinctiveness. Table 2 presents the condition assessment criteria applied for these grassland types. Table

<sup>4</sup> JNCC (2010) Handbook for Phase 1 Habitat Survey: A technique for environmental audit. Joint Nature Conservation Committee, Peterborough

3 presents the results of the condition assessment for each grassland parcel classified under these habitat types.

Table 2: Biodiversity Metric 3.0 condition criteria for grasslands of medium, high & very high distinctiveness

UKHab Habitat Type(s)	
Grassland - Lowland calcareous grassland	Grassland - Lowland dry acid grassland
Grassland - Lowland meadows	Grassland - Other lowland acid grassland
Grassland - Other neutral grassland	Grassland - Tall herb communities*
Grassland - Upland acid grassland	Grassland - Upland calcareous grassland
Grassland - Upland hay meadows	Sparsely vegetated land - Calaminarian grassland
Habitat Description	
See UKHab <sup>1</sup> * Note Tall herb habitat that does not meet the definition of Annex 1 habitat 'Tall herb communities (H6430)' should be recorded as "Other neutral grassland"	
Condition Assessment Criteria	
1	The appearance and composition of the vegetation closely matches characteristics of the specific grassland habitat type (see UKHab definition). Wildflowers, sedges and indicator species for the specific grassland habitat type are very clearly and easily visible throughout the sward.
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.
3	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.
4	Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%.
5	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981). Combined cover of undesirable species <sup>1</sup> and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.
Condition Assessment Result	
Passes 5 of 5 criteria	Good (3)
Passes 3 or 4 of 5 criteria	Moderate (2)
Passes 0, 1 or 2 of 5 criteria	Poor (1)
Notes	
Footnote 1 - Species considered undesirable for this habitat type include: Creeping thistle <i>Cirsium arvense</i> , spear thistle <i>Cirsium vulgare</i> , curled dock <i>Rumex crispus</i> , broad-leaved dock <i>Rumex obtusifolius</i> , common nettle <i>Urtica dioica</i> , creeping buttercup <i>Ranunculus repens</i> , greater plantain <i>Plantago major</i> , white clover <i>Trifolium repens</i> , cow parsley <i>Anthriscus sylvestris</i> .	

Table 3: Condition assessments for neutral grasslands

Habitat Parcel	UKHab Code (with 2° code)	Condition Assessment Criteria					Feature	TN	Condition
		1	2	3	4	5			
13	g3c5 (77,65)	Pass	Fail	Pass	Pass	Fail	F1	TN1	Moderate
14	g3c5 (77,65)	Pass	Fail	Pass	Pass	Fail	F2	TN2	Moderate
15	g3c5 (77,65)	Pass	Fail	Pass	Pass	Fail	F3	TN3	Moderate
16	g3c5 (77,65,140)	Pass	Fail	Pass	Pass	Fail	F3	TN3a	Moderate
17	g3c8 (77,65)	Pass	Pass	Pass	Pass	Fail	F3a	TN3	Moderate
18	g3c5 (77,65)	Pass	Fail	Pass	Pass	Fail	F4	TN6	Moderate
19	g3c6 (77,61,140)	Pass	Pass	Pass	Fail	Fail	F6	TN8	Moderate
56	g3 (17)	Fail	Pass	Pass	Pass	Fail	F2a	TN3	Moderate
57	g3 (16)	Fail	Pass	Pass	Fail	Fail	F3	TN27	Poor
58	g3 (16)	Fail	Pass	Pass	Fail	Fail	F3	TN27	Poor
84	g3 (16,99)	Fail	Pass	Pass	Fail	Fail	Cycle Link	TN22	Poor
92	g3 (56,57,86,99)	Pass	Pass	Pass	Fail	Pass	Victory Park	TN31	Moderate
93	g3 (56,57,86,99)	Pass	Pass	Pass	Fail	Pass	Victory Park	TN31	Moderate

#### g4 Grassland – modified grassland

3.5 Neutral grasslands and agriculturally improved grasslands which are species poor, containing less than 9 species per square, are classified as modified grassland. This grassland is of low distinctiveness. Table 4 presents the condition assessment criteria applied for this grassland type. Table 5 presents the results of the condition assessment for each grassland parcel classified under this habitat type.

Table 4: Biodiversity Metric 3.0 condition criteria for grasslands of low distinctiveness

UKHab Habitat Type(s)	
Grassland - Modified grassland	
Habitat Description	
See UKHab <sup>1</sup>	
Condition Assessment Criteria	
1	There must be 6-8 species per m2. * Note - if a grassland has 9 or more species per m2 it should be classified as a moderate distinctiveness grassland habitat type. <b>NB - this criterion is non-negotiable for achieving good condition.</b>
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.



3	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	
4	Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities.	
5	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	
6	Cover of bracken less than 20%.	
7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species <sup>F1</sup> make up less than 5% of ground cover.	
Condition Assessment Result		Condition Assessment Score
Passes 6 or 7 of 7 criteria including non-negotiable criterion 7		Good (3)
Passes 4 or 5 of 7 criteria including non-negotiable criterion 7		Moderate (2)
Passes 0, 1, 2 or 3 of 7 criteria		Poor (1)
Notes		
Footnote F1 - Species considered undesirable for this habitat type include: Creeping thistle <i>Cirsium arvense</i> , spear thistle <i>Cirsium vulgare</i> , curled dock <i>Rumex crispus</i> , broad-leaved dock <i>Rumex obtusifolius</i> , common nettle <i>Urtica dioica</i> , greater plantain <i>Plantago major</i> , white clover <i>Trifolium repens</i> , cow parsley <i>Anthriscus sylvestris</i> .		

Table 5: Condition assessments for modified grasslands

Habitat Parcel	UKHab Code	Condition Assessment Criteria							Feature	TN	Condition
		1	2	3	4	5	6	7			
1	g4,115	Fail	Fail	Pass	Fail	Fail	Pass	Fail	F1	TN1	Poor
2	g4,115	Fail	Fail	Pass	Fail	Fail	Pass	Fail	F2	TN2	Poor
3	g4,115	Fail	Fail	Pass	Fail	Fail	Pass	Fail	F3	TN4	Poor
4	g4,66	Fail	Fail	Pass	Pass	Pass	Pass	Fail	F3	TN4	Moderate
5	g4,115	Fail	Fail	Pass	Fail	Fail	Pass	Fail	F4	TN6	Poor
6	g4,115	Fail	Fail	Pass	Fail	Fail	Pass	Fail	F5	TN7	Poor
7	g4,61	Fail	Fail	Pass	Fail	Fail	Pass	Fail	F6a	TN9	Poor
8	g4,76,64	Fail	Fail	Pass	Fail	Pass	Pass	Fail	F7	TN10	Poor
9	g4,77,65	Pass	Fail	Pass	Pass	Pass	Pass	Fail	F2	TN2	Moderate
10	g4,77,65	Pass	Fail	Pass	Pass	Pass	Pass	Fail	F2	TN2	Moderate
11	g4,77,65	Pass	Fail	Pass	Pass	Pass	Pass	Fail	F3	TN4	Moderate
12	g4,77,65	Pass	Fail	Pass	Pass	Pass	Pass	Fail	F5	TN7	Moderate
94	g4,86,99	Pass	Fail	Pass	Fail	Pass	Pass	Pass	Victory Park	TN31	Moderate
95	g4,66,710	Fail	Fail	Pass	Fail	Pass	Pass	Fail	School Link	TN32	Poor

## Woodland

- 3.6 One woodland type was recorded on site, this being w1g - other broadleaved woodland. Three woodland parcels were recorded within the site, all extending beyond the site boundary to varying degrees. Two woodland parcels, W1 and W2 have the appearance of secondary woodland. It is understood that W1 is established on land formerly used for landfill. In their current form, they would both broadly accord with the Phase 1 habitat classification of semi-natural broadleaved woodland. (A111) W3 is a planted shelterbelt along School Road and would accord with the Phase 1 classification of broadleaved woodland plantation (A112).
- 3.7 Table 6 presents the condition assessment criteria for woodland habitats. Table 7 presents the results of the condition assessment applied for the woodland parcels located in the site.

Table 6: Biodiversity Metric 3.0 condition criteria for woodlands

UKHab Habitat Type(s): Woodland and Forest				
<ul style="list-style-type: none"> <li>- Lowland beech and yew woodland</li> <li>- Native pine woodlands</li> <li>- Other Scot's pine woodland</li> <li>- Other woodland; mixed</li> <li>- Upland mixed ashwoods</li> <li>- Wet woodland</li> <li>- Lowland mixed deciduous woodland</li> <li>- Other coniferous woodland</li> <li>- Other woodland; broadleaved</li> <li>- Upland birchwoods</li> <li>- Upland oakwood</li> </ul>				
Habitat Description				
See UKHab <sup>1</sup> * <i>This condition sheet is based on the England Woodland Biodiversity Group (EWBG) Woodland Condition Survey Method, available here:</i> <a href="https://woodlandwildlifetoolkit.sylva.org.uk/assess">https://woodlandwildlifetoolkit.sylva.org.uk/assess</a>				
Condition Assessment Criteria				
Indicator		Good (3 points)	Moderate (2 points)	Poor (1 point)
1	Age distribution of trees <sup>F1</sup>	Three age classes present	Two age classes present	One age class present
2	Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland <sup>F2</sup>	Evidence of significant browsing pressure is present in 40% or less of whole woodland	Evidence of significant browsing pressure is present in 40% or more of whole woodland
3	Invasive plant species <sup>F3</sup>	No invasive species present in woodland	Rhododendron or laurel not present, other invasive species < 10% cover	Rhododendron or laurel present, or other invasive species > 10% cover
4	Number of native tree species	Five or more native tree or shrub species found across woodland parcel	Three to four native tree or shrub species found across woodland parcel	None to two native tree or shrub species across woodland parcel

5	Cover of native tree and shrub species	> 80% of canopy trees and >80% of understory shrubs are native	50-80% of canopy trees and 50-80% of understory shrubs are native	< 50% of canopy trees and <50% of understory shrubs are native
6	Open space within woodland <sup>F4</sup>	10 – 20% of woodland has areas of temporary open space, unless woodland is <10ha in which case lower threshold of 10% does not apply	21- 40% of woodland has areas of temporary open space	More than 40% of woodland has areas of temporary open space
7	Woodland regeneration <sup>F5</sup>	All three classes present in woodland; trees 4-7cm dbh, saplings and seedlings or advanced coppice regrowth	One or two classes only present in woodland	No classes or coppice regrowth present in woodland
8	Tree health	Tree mortality less than 10%, no pests or diseases and no crown dieback	11% to 25% mortality and/or crown dieback or low risk pest or disease present	Greater than 25% tree mortality and or any high risk pest or disease present
9	Vegetation and ground flora	Ancient woodland flora indicators present	Recognisable NVC plant community present	No recognisable NVC community
10	Woodland vertical structure <sup>F6</sup>	Three or more storeys across all survey plots or a complex woodland	Two storeys across all survey plots	One or less storey across all survey plots
11	Veteran trees <sup>F7</sup>	Two or more veteran trees per hectare	One veteran tree per hectare	No veteran trees present in woodland
12	Amount of deadwood	50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	Between 25% and 50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	Less than 25% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps
13	Woodland disturbance <sup>F8</sup>	No nutrient enrichment or damaged ground evident	Less than 1 hectare in total of nutrient enrichment across woodland area and/or less than 20% of woodland area has damaged ground	More than 1 hectare of nutrient enrichment and/or more than 20% of woodland area has damaged ground
Total score (out of a possible 39)				

Condition Assessment Result	Condition Assessment Score
Total score >32 (33 to 39)	Good (3)
Total score 26 to 32	Moderate (2)
Total score <26 (13 to 25)	Poor (1)
<b>Notes</b>	
<p><b>Footnote 1</b> - See EWBG method INDICATOR 1 for more information. If tree species is not a birch, cherry or Sorbus: 0 – 20 years (Young); 21 - 150 years (Intermediate); and &gt;150 years (Old). A recognisable age class should be a consistent recognisable layer across the woodland or stand being assessed. Presence of a few saplings would not indicate that the woodland has an 'age class' of young trees.</p>	
<p><b>Footnote 2</b> - See EWBG method INDICATOR 2 for more information. Browsing pressure is considered to be significant where &gt;20% of vegetation visible within each survey plot shows damage from any type of browsing pressure listed.</p>	
<p><b>Footnote 3</b> - See EWBG method INDICATOR 3 for more information. Check for presence of the following invasive non-native species: American skunk cabbage <i>Lysichiton americanus</i>; Himalayan balsam <i>Impatiens glandulifera</i>; Japanese knotweed <i>Fallopia japonica</i>; Cherry Laurel <i>Prunus laurocerasus</i>; Shalloon <i>Gaultheria shallon</i>; Snowberry <i>Symphoricarpos albus</i>; Variegated yellow archangel <i>Lamium galeobdolon</i> subsp. <i>argenteum</i>; and Rhododendron <i>Rhododendron ponticum</i>.</p>	
<p><b>Footnote 4</b> - See EWBG method INDICATOR 6 for more information. Open space within woodland in this context is temporary open space in which trees can be expected to regenerate (e.g. glades, rides, footpaths, areas of clear-fell). This differs from permanent open space where tree regeneration is not possible or desirable (e.g. tarmac, buildings, rivers). Area is at least 10m wide with less than 20% covered by shrubs or trees.</p>	
<p><b>Footnote 5</b> - See EWBG method INDICATOR 8 for more information. This indicator measures regeneration potential of the woodland by considering three classes: seedlings; saplings; and young trees of 4-7 cm DBH. All three classes would fall in the 'young' category of the 'age distribution of trees' indicator, the regeneration indicator is gathers additional information by considering regeneration potential i.e. if seedlings, saplings and young trees are all present that means natural regeneration processes are happening.</p>	
<p><b>Footnote 6</b> - This indicator is looking at structural diversity and is useful to understand in conjunction with the age of trees in a woodland. Vertical structure is defined as the number of canopy storeys present. Possible storey values are: 1) Upper; 2) Complex: recorded when the stand is composed of multiple tree heights that cannot easily be stratified into broad height bands (such as upper, middle or lower); 3) Middle; 4) Lower; and 5) Shrub layer.</p>	
<p><b>Footnote 7</b> - See EWBG method INDICATOR 12 for more information. All ancient trees are veteran trees, but not all veteran trees are ancient. A veteran tree may not be very old, but it has decay features, such as branch death and hollowing. These features contribute to its biodiversity, cultural and heritage value. Veteran trees can be classified if they have four out of the five following features:</p> <ol style="list-style-type: none"> <li>1. Rot sites associated with wounds which are decaying &gt;400 cm<sup>2</sup>;</li> <li>2. Holes and water pockets in the trunk and mature crown &gt;5 cm diameter;</li> <li>3. Dead branches or stems &gt;15 cm diameter;</li> </ol>	

4. Any hollowing in the trunk or major limbs;
5. Fruit bodies of fungi known to cause wood decay.

Footnote 8 - See EWBG method INDICATOR 15 for more information. Examples of disturbance are: significant nutrient enrichment; soil compaction from trampling, machinery or animal poaching; litter.

Table 7: Woodland condition assessment

Criteria		Score		
		W1	W2	W3
1	Age distribution of trees <sup>F1</sup>	2	2	1
2	Wild, domestic and feral herbivore damage	3	3	1
3	Invasive plant species <sup>F3</sup>	3	2	2
4	Number of native tree species	3	3	3
5	Cover of native tree and shrub species	3	3	3
6	Open space within woodland <sup>F4</sup>	3	2	3
7	Woodland regeneration <sup>F5</sup>	2	2	2
8	Tree health	2	3	2
9	Vegetation and ground flora	1	1	1
10	Woodland vertical structure <sup>F6</sup>	2	2	1
11	Veteran trees <sup>F7</sup>	1	1	1
12	Amount of deadwood	2	2	2
	Woodland disturbance <sup>F8</sup>	2	2	1
	Score	29	28	23
	Condition	Moderate	Moderate	Poor

## Scrub

- 3.8 Three types of scrub habitat were recorded within the site: other blackthorn (h3a), bramble (h3d) and mixed scrub (h3h). All are broadly equivalent to the Phase 1 type dense/continuous scrub (A21).
- 3.9 Table 8 presents the condition assessment criteria for scrub habitats. In the application of Biodiversity Metric 3.0, bramble scrub is automatically assigned 'poor' condition. There are numerous habitat parcels of bramble scrub recorded across the site (25-50 and 59). These parcels of bramble scrub are excluded from the condition assessment tables, given their fixed condition in the Biodiversity Metric. Table 9 presents the results of the condition assessment applied for the other blackthorn and mixed scrub habitat types.

Table 8: Biodiversity Metric 3.0 condition criteria for scrub

UKHab Habitat Type(s): Heathland and Shrub	
<ul style="list-style-type: none"> <li>- Blackthorn scrub</li> <li>- Gorse scrub</li> <li>- Hazel scrub</li> <li>- Sea buckthorn scrub (Annex 1)</li> <li>- Bramble scrub</li> <li>- Hawthorn scrub</li> <li>- Mixed scrub</li> </ul>	
Habitat Description	
See UKHab <sup>1</sup> * For sea buckthorn scrub use Habitats Directive Annex 1 definition	
Condition Assessment Criteria	
1	Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover).
2	There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs.
3	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species <sup>1</sup> make up less than 5% of ground cover.
4	The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s).
5	There are clearings, glades or rides present within the scrub, providing sheltered edges.
Condition Assessment Result	
Condition Assessment Score	
Passes 5 of 5 criteria	Good (3)
Passes 3 or 4 of 5 criteria	Moderate (2)
Passes 0, 1 or 2 of 5 criteria	Poor (1)
Notes	
Footnote 1 - Species considered undesirable for this habitat type include: creeping thistle <i>Cirsium arvense</i> , common nettle <i>Urtica dioica</i> , cherry laurel <i>Prunus laurocerasus</i> , snowberry <i>Symphoricarpos</i> spp., buddleia <i>Buddleja</i> spp., cotoneaster <i>Cotoneaster</i> spp., Spanish bluebell <i>Hyacinthoides hispanica</i> (or hybrids).	

Table 9: Condition assessments for blackthorn and mixed scrub parcels

Habitat	UKHab Code	Condition Assessment Criteria					Feature	TN	Condition
Parcel	(with 2° code)	1	2	3	4	5			
20	h3a6,77	Fail	Pass	Pass	Fail	Fail	F5	TN28	Poor
21	h3a6,77	Fail	Pass	Pass	Pass	Fail	F5/H5	TN28/TN17	Moderate
22	h3a6,77	Pass	Fail	Pass	Pass	Fail	F1	TN29	Moderate
23	h3a6,77	Fail	Pass	Pass	Pass	Fail	F4/H2	TN4/TN14	Moderate
24	h3a6,77	Pass	Pass	Pass	Pass	Fail	F4	TN23	Moderate
51	h3h,77,130	Pass	Fail	Pass	Fail	Fail	F5/H1	TN28/TN13	Poor
52	h3h,77,130	Pass	Pass	Pass	Pass	Fail	F3	TN26	Moderate



Habitat Parcel	UKHab Code (with 2° code)	Condition Assessment Criteria					Feature	TN	Condition
		1	2	3	4	5			
53	h3h,77,130	Fail	Pass	Pass	Pass	Fail	F3	TN25	Moderate
54	h3h,77,130	Fail	Pass	Pass	Pass	Fail	F3/H4	TN4/TN16	Moderate
55	h3h,77,130	Pass	Fail	Pass	Pass	Fail	H5/F6	TN17/N8	Moderate
86	h3h	Pass	Pass	Fail	Fail	Fail	Cycle Link	TN22	Poor
91	h3a6	Pass	Fail	Fail	Pass	Fail	Victory Park	TN31	Poor
98	h3h,190,78, 11,49,152	Pass	Pass	Pass	Fail	Fail	F4	TN24	Moderate

## Hedgerows

- 3.10 Field boundaries within and most bordering the site are vegetated. Most originate from hedgerow planting. A prolonged absence of traditional hedgerow management has enabled the hedgerows to grow out, in some cases so considerably that the original line of hedgerow is indistinct from the surrounding outgrowth. Hedgerows as defined by the suite of survey guidance applied to the habitat surveys completed at the site are defined, amongst other criteria, as having a woody component less than 5m wide at its base. Where hedgerows have outgrown beyond this point, they have instead been categorised as an alternative primary habitat, for example mixed scrub.
- 3.11 It should also be noted that the Hedgerow Regulations assessment (Ecological Technical Appendix D, TEP Ref 7507.20.057) applies different criteria to those set by the Biodiversity Metric condition assessment criteria. For example, relating to the frequency of mature trees, Hedgerow Regulations assessment determines the average over 50m, while the Biodiversity Metric criteria applies a 30m average. The assessments as a whole and of individual criterion should therefore be considered separately as they are not interchangeable.
- 3.12 Table 10 presents the condition assessment criteria for hedgerows while Table 11 presents the application of these criteria to determine condition. Table 12 presents the results of the hedgerow condition assessment.

Table 10: Biodiversity Metric 3.0 condition criteria for hedgerows

UKHab Habitat Type
Native hedgerow
Native hedgerow - associated with bank or ditch
Native hedgerow with trees
Native hedgerow with trees - associated with bank or ditch
Native species rich hedgerow
Native species rich hedgerow - associated with bank or ditch
Native species rich hedgerow with trees
Native species rich hedgerow with trees - associated with bank or ditch

Habitat Description		
See Chapter 8 of User Guide		
Condition Assessment Criteria		
A series of ten attributes, representing key physical characteristics, are used for this assessment. The attributes, and the minimum criteria for achieving a favourable condition in each, are defined. The attributes use similar favourable condition criteria to the Hedgerow Survey Handbook and the handbook is the recommended source of reference for assessing individual hedgerow attributes.		
Hedgerow favourable condition attributes		
Attributes and functional groupings (A,- E)	Criteria (minimum requirements for 'favourable condition'	Description
Core groups - applicable to all hedgerow types		
A1. Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is > 1.5 m height).
A2. Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (e.g. blackthorn suckers) are only included in the width estimate when they >0.5 m in height. Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice <sup>4</sup> ).
B1. Gaps- hedge base	Gap between ground and base of canopy <0.5 m for >90% of length (unless 'line of trees')	This is the vertical gappiness of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).
B2. Gaps - hedge canopy continuity	<ul style="list-style-type: none"> <li>Gaps make up &lt;10% of total length and</li> <li>No canopy gaps &gt;5 m</li> </ul>	This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall gappiness, but are not subject to the >5 m criterion (as this is the typical size of a gate).

C1. Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: - measured from outer edge of hedgerow, and is present on one side of the hedge (at least)	This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall gappiness but are not subject to the >5 m criterion (as this is the typical size of a gate).
C2. Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground	The indicator species used are nettles ( <i>Urtica</i> spp.), cleavers ( <i>Galium aparine</i> ) and docks ( <i>Rumex</i> spp.). Their presence, either singly or together, should not exceed the 20% cover threshold.
D1. Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species	Neophytes are plants that have naturalised in the UK since AD 1500. For information on neophytes see the JNCC website and for information on invasive non-native species see the GB Non-Native Secretariat website.
D2. Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (e.g. excessive hedge cutting).
Additional group - applicable to hedgerows with trees only		
E1. Tree age	At least one mature tree per 30m stretch of hedgerow. A mature tree is one that is at least 2/3 expected fully mature height for the species.	This criterion addresses if there are sufficient mature trees (within the scope of planning timescales) which are of higher value to biodiversity.
E2. Tree health	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	This criterion identifies if the trees are subject to damage which compromises the survival and health of the individual specimens.

Table 11: Hedgerow condition assessment and weighting

Condition categories for hedgerows without trees		
Category	Maximum number of attributes that can fail to meet 'favourable condition' criteria in Table TS1-2	Weighting (score)
Good	No more than 2 failures in total; AND No more than 1 in any functional group.	3
Moderate	No more than 4 failures in total; AND <u>Does not fail both attributes</u> in more than one functional group (e.g. fails attributes A1, A2, B1 & C2 = Moderate condition).	2
Poor	Fails a total of more than 4 attributes; OR <u>Fails both attributes</u> in more than one functional group (e.g. fails attributes A1, A2, B1 & B2 = Poor condition).	1
Condition categories for hedgerows with trees		
Category	Maximum number of attributes that can fail to meet 'favourable condition' criteria in Table TS1-2	Weighting (score)
Good	No more than 2 failures in total; AND No more than 1 failure in any functional group.	3
Moderate	No more than 5 failures in total; AND <u>Does not fail both attributes</u> in more than one functional group (e.g. fails attributes A1, A2, B1, C2 & E1 = Moderate condition).	2
Poor	Fails a total of more than 5 attributes; OR <u>Fails both attributes</u> in more than one functional group (e.g. fails attributes A1, A2, B1 & B2 = Poor condition).	1

Table 12: Hedgerow condition assessment

Criteria	H1	H2	H3	H4	H5	H6
A1	Pass	Pass	Pass	Pass	Pass	Pass
A2	Pass	Pass	Pass	Pass	Pass	Pass
B1	Fail	Fail	Fail	Fail	Fail	Pass
B2	Pass	Pass	Fail	Fail	Pass	Pass
C1	Fail	Fail	Fail	Fail	Fail	Fail
C2	Pass	Fail	Fail	Fail	Fail	Fail
D1	Pass	Pass	Pass	Pass	Pass	Fail
D2	Pass	Pass	Pass	Pass	Pass	Fail
E1	Pass	Fail	Fail	Fail	Fail	n/a
E2	Pass	Pass	Fail	Fail	Pass	n/a
Condition	Good	Moderate	Poor	Poor	Moderate	Poor

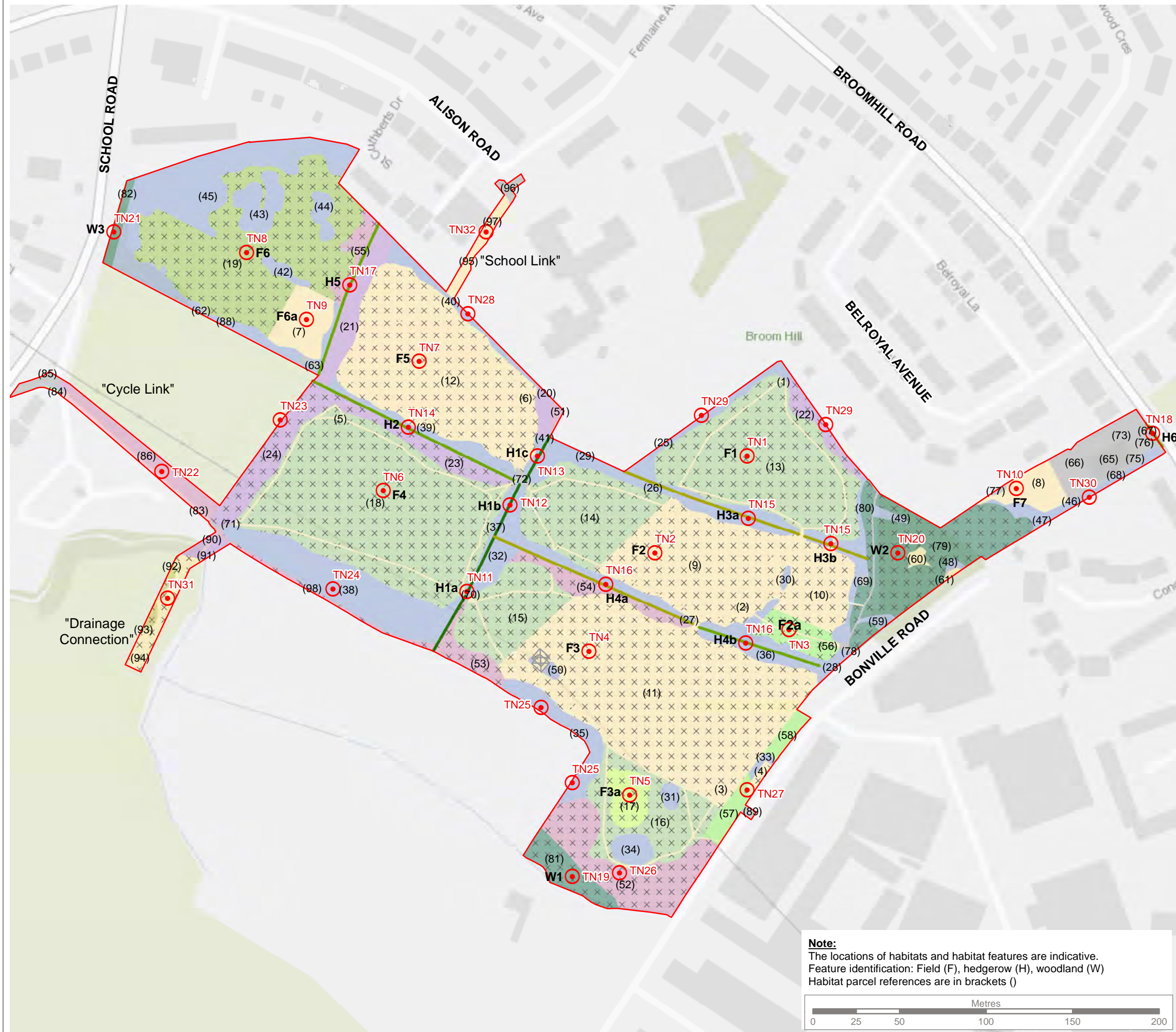


## Drawings

G7507.20.012

Habitat Condition Assessment (Biodiversity Metric 3.0)





**Note:**  
The locations of habitats and habitat features are indicative.  
Feature identification: Field (F), hedgerow (H), woodland (W)  
Habitat parcel references are in brackets ( )

**KEY**

- Site boundary

Target Note (TN)

**h2a - Hedgerow (priority habitat)**

Good condition

Moderate condition

Poor condition

**g3 Grassland - neutral grassland (ephemeral, tall ruderal, non-native)**

Moderate condition

Poor condition

**g3c Grassland - other neutral grassland**

Moderate condition

**g3c5 Grassland - Arrhenatherum neutral grassland**

Moderate condition

**g3c6 Grassland - Lolium-Cynosurus neutral grassland**

Moderate condition

**g3c8 Grassland - Holcus - Juncus neutral grassland**

Moderate condition
- g4 Grassland - modified grassland**

Moderate condition

Poor condition

**h3a6 Heathland and scrub - other blackthorn scrub**

Moderate condition

Poor condition

**h3d Heathland and scrub - bramble scrub**

Poor condition

**h3h Heathland and scrub - mixed scrub**

Moderate condition

Poor condition

**w1g Woodland and forest - other broadleaved woodland**

Moderate condition

Poor condition

**u1c Urban - artificial unvegetated unsealed surface**

Poor condition

**u Urban (other types)**

no assessment required

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Rev	Description	Drawn	Approved	Date

TEP

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Project  
Brislington Meadows

Title  
Habitat Condition Assessment (applying Natural England Biodiversity Metric 3.0 Technical Guidance)

Drawing Number  
G7507.20.012

Drawn RR	Checked CB	Approved VG	Scale 1:2,250 @ A3	Date 22/02/2022
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