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Our Ref: 21-2320

M. Owen Edgars Ltd On behalf of Lisa Simon and Piers Holden

Email: miriam@edgarslimited.co.uk

18th March 2022

Dear Miriam,

PRIORY BARN, ALVESCOT / BIODIVERSITY NET GAIN ASSESSMENT SUMMARY

Nicholsons Lockhart Garratt Ltd were commissioned in March 2022 to undertake a Biodiversity Net Gain Assessment using the DEFRA Metric 3.0 for the Proposed Development of land at Priory Barn, Alvescot (the "Site"). The methods and results of this assessment are presented in this letter and accompanying documents.

Methods and policy background

The calculation involved determining the current biodiversity value of the Site in order to create a baseline for development. The anticipated biodiversity value of the Proposed Development was then calculated based on the Proposed Landscape Design Plan (2135_0050_P03; Thinking Buildings, March 2022).

The DEFRA 3.0 metric splits habitats into linear and non-linear habitat types. It takes into account habitats to be retained or enhanced as part of the development as well as any new habitat to be created. Once the biodiversity habitat scores for both pre and post-development have been calculated, they are compared to determine whether the development will cause a net loss or gain in biodiversity.

The Site currently comprises improved grassland, tall ruderal, scattered trees, hedgerows, buildings and hardstanding. All habitats with the exception of some of the scattered trees and the hedgerow boundaries are to be permanently removed as part of the proposed works.

In accordance with current Policy EH3 Biodiversity and Geodiversity in the West Oxfordshire Local Plan 2031, a biodiversity net gain must be achieved for all developments. If habitat improvements cannot be made on site, then a compensation biodiversity gain must be made off site. Policy EH3 states:

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- taking all opportunities to enhance the biodiversity of the site or the locality, especially where this will help deliver networks of biodiversity and green infrastructure and UK priority habitats and species targets and meet the aims of CTAs;
- ensuring that all applications that might adversely affect biodiversity are accompanied by adequate ecological survey information in accordance with BS 42020:2013 unless alternative approaches are agreed as being appropriate with the District Council's ecologist;
- all major and minor applications demonstrating a net gain in biodiversity where possible. For major applications this should be demonstrated in a quantifiable way through the use of a Biodiversity Impact Assessment Calculator (BIAC) based on that described in the DEFRA Biodiversity Offsetting guidance or a suitably amended version. For minor applications a BIAC will not usually be required but might be requested at the Council's discretion;
- all development incorporating biodiversity enhancement features.

All developments will be expected to provide towards the provision of necessary enhancements in areas of biodiversity importance."

Habitat assessment

Lost habitats will include improved grassland and tall ruderal.

<u>Retained habitats</u> will include the scattered trees, boundary hedgerows (some parts to be enhanced) and the hardstanding.

<u>Proposed habitats</u> to be incorporated into the Proposed Development include new buildings, hardstanding access, amenity grassland lawn areas, orchard with wildflower meadow, native woodland copse and hedgerows.

Condition assessments of each relevant habitat are appended to this letter.

<u>Results</u>

Screenshots of the completed metric are appended to this letter, and the document itself is available on request. A summary of the Biodiversity Net Gain calculation is given below:

Non-linear Habitat Biodiversity Value (pre-development) Size of Site = 0.511ha Habitat to be lost = 0.476ha Habitat to be retained= 0.04ha

Non-linear Habitat Units (pre-development) = 1.51

<u>Non-linear Habitat Mitigation proposed as per the Landscape Design Plan</u> Habitats to be created as part of the development = 0.51ha

Non-linear Habitat Units delivered post-development = 1.88

Linear Habitat Biodiversity Value (pre-development)

Total length of features on Site = 29.8m of intact species-poor native hedgerow; 76.5m of intact ornamental hedgerow. Length of linear features to be lost = 0m Length of linear features to be retained = 89.9m (H1 & H3) Length of linear habitat to be enhanced = 16.4m (H2)

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Linear Habitat Units (pre-development) = 0.26

<u>Linear Habitat Mitigation proposed as per the Landscape Design Plan</u> Native hedgerow to be planted as part of the Proposed Development = 246m

Linear Habitat Units delivered post-development = 1.26

Biodiversity Net Gain Calculation Conclusion

The Proposed Development would result in a gain of **0.44 Non-linear Habitat Units** and a total change of non-linear biodiversity change of **+29.11%**.

The Proposed Development would result in a net gain of **1.00 Linear Habitat Units** and a total change of linear biodiversity change of **+375.49%**.

The result of the initial Biodiversity Net Gain calculation shows a net gain for Non-linear and Linear habitats in accordance with the net gain required local planning policy.

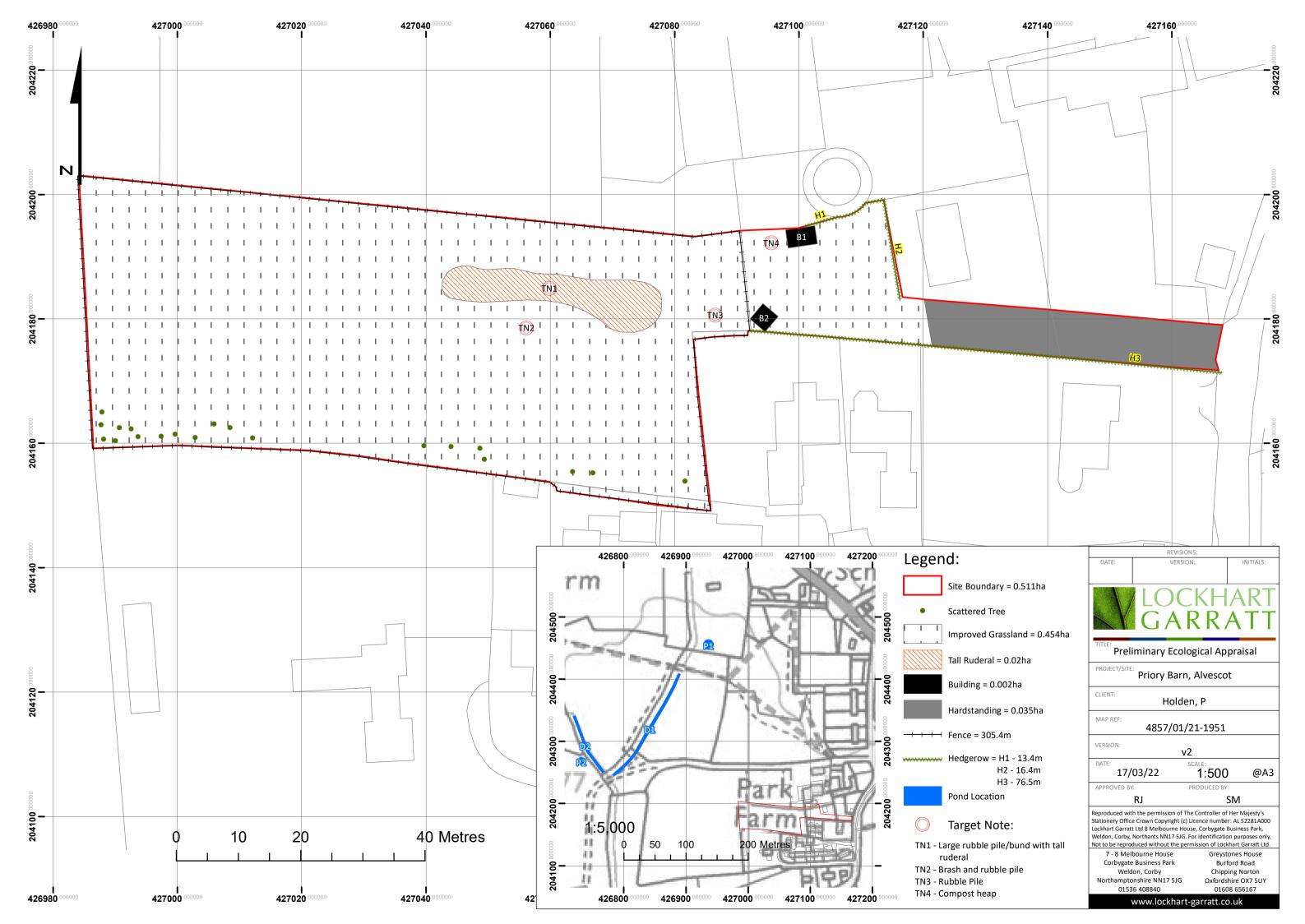
Kind regards,

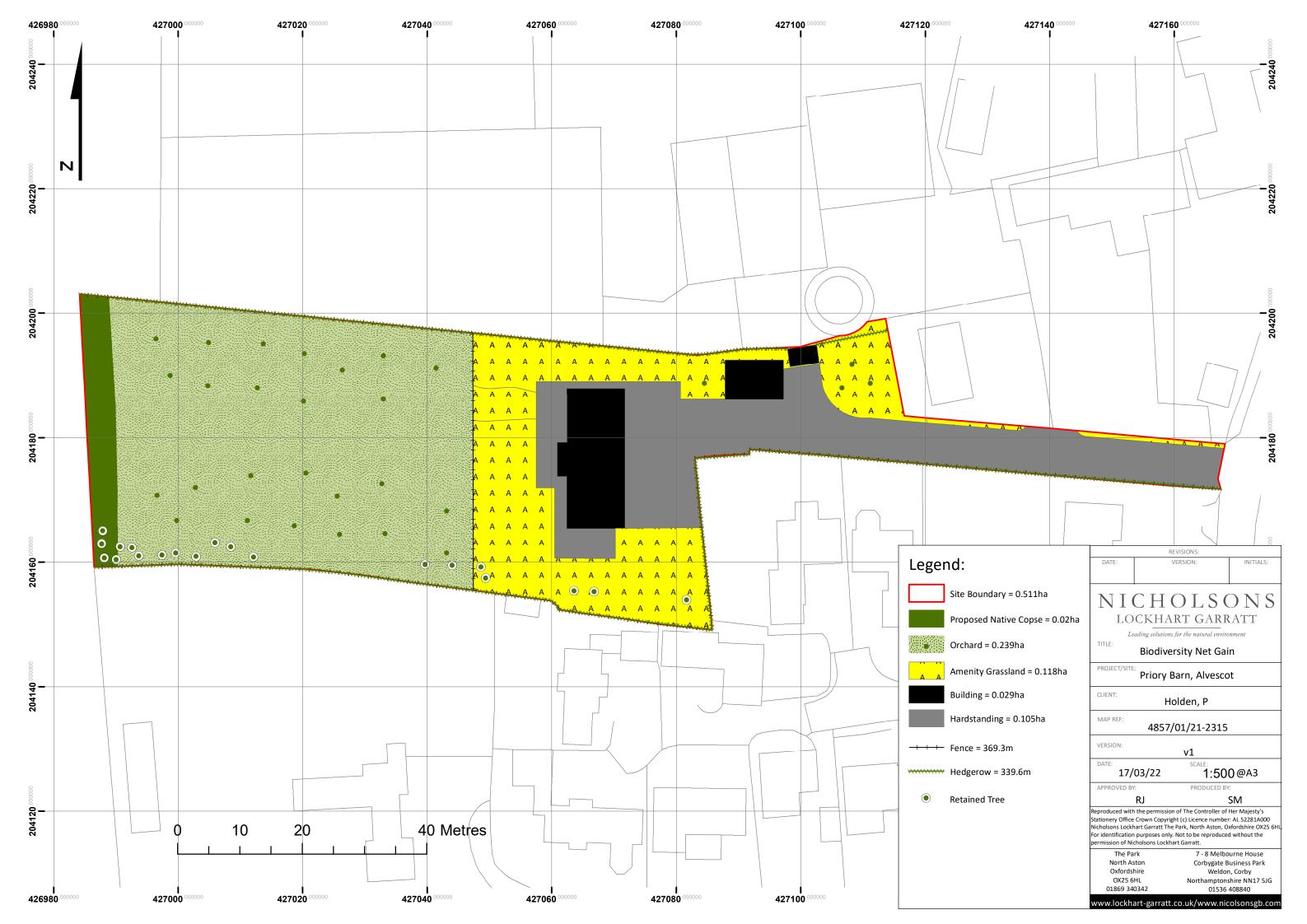
R. Jun

Rachel Jackson BSc (Hons) Assistant Ecological Consultant

Attached:

PEA map: 21-1951 PEA V2 SM170322 BNG map: 21-2315 BNG V1 SM170322 Defra metric results: 21-2310 BNG Metric V1 RJ 160322 Baseline habitat conditions: 21-2311 Baseline Conditions V1 RJ 160322 Post-development habitat conditions: 21-2312 Post Development Conditions V1 RJ 160322





Priory Barn, Alvescot	
Headline Results	

Return to results menu

	Habitat units	1.51
On-site baseline	Hedgerow units	0.26
	River units	0.00
	Habitat units	1.95
On-site post-intervention	Hedgerow units	1.26
(Including habitat retention, creation & enhancement)	River units	0.00
	Habitat units	29.11%
On-site net % change	Hedgerow units	375.49%
(Including habitat retention, creation & enhancement)	River units	0.00%
	Habitat units	0.00
Off-site baseline	Hedgerow units	0.00
	River units	0.00
	Habitat units	0.00
Off-site post-intervention	Hedgerow units	0.00
(Including habitat retention, creation & enhancement)	River units	0.00
	Habitat units	0.44
Total net unit change	Hedgerow units	0.99
(including all on-site & off-site habitat retention, creation & enhancement)	River units	0.00
	Habitat units	29.11%
Total on-site net % change plus off-site surplus	Hedgerow units	375.49%
(including all on-site & off-site habitat retention, creation & enhancement)	River units	0.00%
Trading rules Satisfied?	Y	les l

CONDITION ASSESSMENT	F PROFORMA FOR USE WITH BIOD	IVERSITY METRIC 3.0 - AREA BASE	D HABITATS			
Date	16/03/2022	Metric 3.0 survey reference (if condition assessn	ment of this			
Weather conditions		polygon relates to a wider habitat survey)				
Surveyor name(s)	Rachel Jackson	Unique polygon reference(s)				
Project / development name	Priory Barn, Alvescot	Metric 3.0 habitat type	Grassland - modified grassland			
Site name or location		Condition assessment required? (y/n)	Y			
Onsite or offsite?		Condition sheet used	Grassland Low			
Reason for assessment (if not						
baseline condition survey)						
Limitations (if applicable)	Preliminary Ecological Appraisal undertaken in J	anuary 2022 in botanically undesirable season.				
	На	bitat description				

Short sward with minor encroachment from tall ruderal, subject to occasional sheep grazing and had previously been enriched with nutrients. Species recorded included cock's-foot Dactylis glomerata, common bent Agrostis capillaris, perennial ryegrass Lalium perenne, Yorkshire fog Holcus lanatus. Herb species recorded include creeping buttercup Ranunculus repens, cow parsley Anthriscus sylvestris, cleavers Galium aparine, ground ivy Glechoma hederacea, selfheal Prunella vulgaris, black medic Medicago lupulina, common nettle Urtica dioica, dwarf nettle Urtica urens, hairy bittercress Cardamine hirsuta, common daisy Bellis perennis, ribwort plantain Plantago lanceolata, chickweed Stellaria media, shepherds purse Capsella bursa-pastoris, spear thistle Cirsium vulgare, sow thistle Sonchus oleraceus and encroaching bramble Rubus fructicosus agg.

						-								
		Allocate	•	ail 'F'. Allocat Inte								3 criteria.		
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	F	Р	Р	F	Р	Р	F	NA	NA	NA	NA	NA	NA	4 passes
Photo ref														
Target														
note ref														
Are any crit (Y/N) If Yes are th	·	gotiable?					Condition (Good/Moder	rate/Poor):	Fairly-poo	r due to she	ep grazing a	nd nutrient e	enrichment
Suggested e interventior score			Removal of	undesirable	species such	n as spear th	istle, commo	on nettle and	cow parsley	1.				

	Condition Sheet: GRASSLAND Habitat Type (low distinct	iveness)
JKHab Habit		
Grassland - N	1odified grassland	
labitat Desc	ription	
ee UKHab		
ondition As	sessment Criteria	2
1	There must be 6-8 species per m ² . Note - if a grassland has 9 or more as a moderate distinctiveness grassland habitat type. NB - this criterion is non-negotiable for achieving good condition.	species per m ² it should be classified
2	Sward height is varied (at least 20% of the sward is less than 7 cm and cm) creating microclimates which provide opportunities for insects, b breed.	•
3	Some scattered scrub (including bramble) may be present, but scrub a grassland area. Note - patches of shrubs with continuous (more than s relevant scrub habitat type.	
4	Physical damage evident in less than 5% of total grassland area, such a machinery use or storage, damaging levels of access, or any other dar	
5	Cover of bare ground between 1% and 5%, including localised areas, f	or example, rabbit warrens.
6	Cover of bracken less than 20%.	
7	There is an absence of invasive non-native species (as listed on Schedu species ¹ make up less than 5% of ground cover.	ule 9 of WCA, 1981) and undesirable
	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; OR Passes 6 of 7 criteria excluding non-negotiable criterion 7	Moderate (2)
	Passes 0, 1, 2 or 3 of 7 criteria	Poor (1)
	Notes	
	Notes Species considered undesirable for this habitat type include: Creeping this <i>re</i> , curled dock <i>Rumex crispus</i> , broad-leaved dock <i>Rumex obtusifolius</i> , co	

Cirsium vulgare , curled dock Rumex crispus , broad-leaved dock Rumex obtusifolius , common nettle Urtica dioica , greater plantain Plantago major, white clover Trifolium repens , cow parsley Anthriscus sylvestris .

CONDIT	ION ASS	ESSMEN	T PROFO	RMA FO	R USE W		VERSIT		3.0 - AR	EA BASE	D HABIT	ATS					
Date			16/03/2022	-			Metric 3.0	survey refere	ence (if condi	tion assessr	ment of this						
Weather co	onditions						polygon rel	ates to a wic	der habitat su	rvey)							
Surveyor na	ame(s)		Rachel Jack	son			Unique poly	ygon referen	nce(s)								
Project / de	velopment r	name	Priory Barn	, Alvescot			Metric 3.0	habitat type			Ruderal Y						
Site name o	or location						Condition a	ssessment r	equired? (y/r	ı)							
Onsite or of	ffsite?						Condition s	heet used									
Reason for a baseline cor		•															
Limitations	(if applicable	e)															
						Ha	bitat descrip	tion									
		lirsium arven	nse , ivy Hede pass 'P' or fa	era helix , rib il 'F'. Allocat	wort plantai	n Plantago l y irrelevant o	lanceolata , f criteria numb	ield bindwee	cleavers Gali ed Convolvulu condition shee r '3' against e	is arvensis , et contains	and mugwor	rt Artemisia	÷ .				
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL			
Result	F	Р	Р	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2 passes			
Photo ref																	
Target note ref																	
Are any crit (Y/N) If Yes are th		gotiable?					Condition (Good/Mode	rate/Poor):			Moderate					
Suggested e interventior score																	

	Condition Sheet: URBAN - NON PRIORITY Habitat Type	
	bitat Type	
	regetated land - Ruderal/ephemeral	
Habitat D		
See UKHa		
	Assessment Criteria	
CORE CRIT	ERIA - applicable to all urban habitat types:	
1	Vegetation structure is varied, providing opportunities for insects, birds and b ecotone (i.e. scrub, grassland, herbs) should not account for more than 80% o	
2	There is a diverse range of flowering plant species, providing nectar sources f either native, or non-native but beneficial to wildlife. NB - To achieve GOOD condition, criterion 2 must be satisfied by native speci- beneficial to wildlife).	
3	Invasive non-native species (Schedule 9 of WCA) cover less than 5% of total v NB - To achieve GOOD condition, criterion 3 must be satisfied by a complete a species (rather than <5% cover).	-
ADDITION	AL CRITERION - only applicable to Open mosaic on previously developed land	habitat type:
4a	The site shows spatial variation, forming a mosaic of at least four early succes PLUS bare substrate AND pools. (a) annuals; (b) mosses/liverworts; (c) lichens species; (f) open grassland; (g) flower-rich grassland; (h) heathland.	
ADDITION	AL CRITERION - only applicable to Bioswale and SUDS habitat types:	
4b	The water table is at or near the surface throughout the year. This could be o the surface.	pen water or saturation of soil at
	Condition Assessment Result	Condition Assessment Score
If 3 criteria	a assessed:	
	of 3 core criteria; AND ne requirements for good condition within criteria 2 and 3	Good (3)
• Passes 3	of 3 core criteria; OR of 3 core criteria but does not meet the requirements for good condition eria 2 and 3	Moderate (2)
• Passes () or 1 of 3 core criteria	Poor (1)
If 4 criteria	a assessed:	
• Meets th	of 3 core criteria; AND ne requirements for good condition within criteria 2 and 3; AND dditional criterion 4a or 4b	Good (3)
	of 3 of 4 criteria; OR of 4 criteria but does not meet the requirements for good condition within and 3	Moderate (2)
• Passes () or 1 of 4 criteria	Poor (1)
	Notes	

CONDIT	ION ASS	ESSMEN	PROFO	RMA FO	R USE W		DIVERSIT		3.0 - AR	EA BASE	D HABIT	ATS			
Date			16/03/2022	2			Metric 3.0	survey refere	ence (if condi	tion assess	ment of this				
Weather co	onditions						polygon rel	, ates to a wic	ler habitat su	irvey)					
Surveyor na	ame(s)		Rachel Jack	son			Unique poly	gon referen	ice(s)						
Project / de	evelopment	name	Priory Barn	, Alvescot			Metric 3.0	nabitat type			Urban Tree				
Site name of	or location						Condition a	ssessment r	equired? (y/r	ו)	Y				
Onsite or o	ffsite?						Condition s	heet used			Urban Tree				
	assessment Indition surv	•													
Limitations	(if applicabl	e)													
						Ha	abitat descrip	tion							
		Allocate	•		te 'NA' to an	y irrelevant	criteria numb allocate score	ers where c	ondition she			3 criteria.			
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL	
Result	Р	F	F	Р	F	Р	NA	NA	NA	NA	NA	NA	NA	3 passes	
Photo ref															
Target note ref															
(Y/N)	teria non-ne hey passed?	gotiable?					Condition (Good/Mode	rate/Poor):			Moderate			
00	enhancemer														

	Condition Sheet: URBAN TREES (INCLUDING STREET TREES) Habit	at Type
JKHab Habi	tat Type(s)	
Jrban - Urb	an tree	
labitat Des	cription	
ndividual T mature tree close proxim Perimeter B nto develop	ollowing topographical formations most commonly found in urban areas ¹ : rees: Young trees over 75mm in diameter measured at 1.5m from ground level a s of significant stature and size that dominant their surroundings whose canopies nity to other trees. locks: Groups or stands of trees within and around boundaries of land, former fie ments, individual trees in gardens whose canopies overlap continuously s: Lines of trees along streets, highways, railways and canals whose canopies ma /.	s are not touching but that are in eld boundary trees incorporated
Condition A	ssessment Criteria	
1	More than 70% of trees are native species.	
2	Tree canopy is predominantly continuous with gaps in canopy cover making u individual gap being >5 m wide.	up <10% of total area and no
3	More than 50% of trees are mature ² or veteran ³ .	
4	There is little or no evidence of an adverse impact on tree health by anthropo vandalism or herbicide use. There is no current regular pruning regime so the canopy for their age range and height.	5
5	Management regime has encouraged micro habitat sites for birds, mammals deadwood, cavities or loose bark etc.	and insects e.g. presence of
6	Trees are immediately adjacent to other vegetation, and tree canopies are ov	versailing vegetation beneath.
	FC	Condition Assessment Score
	Passes 5 or 6 of 6 criteria	Good (3)
	Passes 3 or 4 of 6 criteria	Moderate (2)
	Passes 0, 1 or 2 of 6 criteria	Poor (1)
	Notes	
used for tran provide a lan for over two species are to particularly vertebrates and aphids of cogether wite question. Tr and contribut	This covers all trees in artificial urban habitats such as private gardens, private la asport functions; roads, streets, canals, rail, footpaths etc. Trees in urban areas carge range of habitat opportunities, supporting lichens, invertebrates and birds. The hundred years also introduced non-native species into towns and cities. In the or the preferred option. However, non-native tree species can contribute positively in relation to providing a seasonal food source for nectar feeders and other inver that feed on species that are hosted by non-native trees. Examples are early and on varieties of <i>Acer</i> providing food for species higher up the food chain. The spece h the intensity and type of management they are subject to will determine the bar ees in urban areas provide opportunistic sites for biodiversity to colonise and re- uting to biodiversity critical mass between already established patches or sites. The rridors are populated with mixed native species	an under the right conditions ree planting in urban areas has context of biodiversity native to biodiversity richness rebrates as well as supporting I late flowering species of <i>Prunu</i> . cies of trees ⁽ native or non-nativ piodiversity value of the trees in colonise, increasing connectivity

CONDIT	ION ASS	ESSMEN [®]	T PROFO	RMA FO	R USE W	ITH BIODIV	/ERSITY N	METRIC 3	.0 - AREA	BASED	HABITAT	S				
Date			16/03/2022				Metric 3.0	survey refere	ence (if condi	tion assessr	nent of this					
Weather co	onditions						polygon re	lates to a wid	der habitat su	irvey)	vey)					
Surveyor na	ame(s)		Rachel Jack	son			Unique po	ygon referer	nce(s)							
Project / de	evelopment r	name	Priory Barn,	, Alvescot			Metric 3.0	habitat type			Hedgerow					
Site name o	or location						Condition a	assessment r	equired? (y/r	ו)	Y					
Onsite or of	ffsite?						Condition s	sheet used			Hedgerows					
	assessment															
baseline co	ndition surve	ey)														
Limitations	(if applicable	e)														
							the first state of the first									
						Нар	itat descript	ion								
1m in wid	th along who	0	5	0	0	nt by flailing. Lit ny irrelevant cr	0			,			ium aparine	recorded.		
		-	For Wo	odland & In	tertidal cond	lition sheets, al	locate score:	s of '1' '2' or '	3' against ea	ch criteria a	ssessed.					
Criterion	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	١	١	١	TOTAL		
Result	Р	F	Р	Р	Р	F	Р	Р	NA	NA	NA	NA	NA	6 passes		
Photo ref																
Target note ref																
Are any crit (Y/N) If Yes are th	eria non-neg ney passed?	otiable?					Condition (Good/Mode	rate/Poor):			Good				
00	enhancemen ns to improv															

CONDIT	ION ASS	ESSMEN [®]	T PROFO	RMA FO	R USE W	ITH BIO	DIVERSIT	(METRIC	C 3.0 - AR	EA BASI	ED HABIT	ATS				
Date			16/03/202	2			Metric 3.0	survey refer	ence (if condi	tion assess	ment of this					
Weather co	onditions						polygon rel	ates to a wid	der habitat su	rvey)						
Surveyor na	ame(s)		Rachel Jack	kson			Unique poly	ygon referer	nce(s)							
Project / de	evelopment i	name	Priory Barn	n, Alvescot			Metric 3.0 l	habitat type			Hedgerow					
Site name o	or location						Condition a	issessment r	required? (y/n	ı)	Y					
Onsite or o	ffsite?						Condition s	heet used		Hedgerows						
	assessment ndition surve	•														
Limitations	(if applicable	e)														
						H	labitat descrip	tion								
		Allocate	•			y irrelevant	ng the whole le t criteria numb , allocate score	pers where c				.3 criteria.				
Criterion	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	\	\	\	TOTAL		
Result	F	F	F	F	F	P	Р	Р	NA	NA	NA	NA	NA	3 passes		
Photo ref																
Target note ref																
(Y/N)	teria non-neg ney passed?	gotiable?					Condition (Good/Mode	erate/Poor):			Poor				
	enhancemer ns to improv															

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 attr Attributes and functional Criteria (the minimum requirements for Descriptior groupings (A, B, C, D & E) favourable condition Core groups - ap The average height of woody growt estimated from base of stem to the top of Δ1 Height >1.5 m average along length shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. The average width of woody growth estimated at the widest point of the canopy, A2. Width >1.5 m average along length excluding gaps and isolated trees. This is the vertical gappiness of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Gap between ground and base of canopy <0.5 B1. Gap - hedge base n for >90% of length (unless 'line of trees') Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook) This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Gaps make up <10% of total length and Gap - hedge canopy B2. continuity 🛙 No canopy gaps >5 m 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). This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no >1 m width of undisturbed ground with Undisturbed ground natter how small) perennial herbaceous vegetation for >90% of C1. and perennial ength ccess points and gates contribute to the vegetation I measured from outer edge of hedgerow. overall gappiness, but are not subject to the and >5 m criterion (as this is the typical size of a I is present on one side of the hedge (at gate). least) The indicator species used are nettles (Urtica spp.), cleavers (Galium aparine) and docks Undesirable (Rumex spp.). Their presence, either singly or C2. Plant species indicative of nutrient perennial vegetation enrichment of soils dominate <20% cover of together, should not exceed the 20% cover he area of undisturbed ground threshold. Neophytes are plants that have naturalised in the UK since AD 1500. For information on Invasive and D1. neophytes see the JNCC website and for >90% of the hedgerow and undisturbed neophyte species information on invasive non-native species ground is free of invasive non-native and see the GB Non-Native Secretariat website. eophyte species This criterion addresses damaging activities that may have led to or lead to deterioration n other attributes >90% of the hedgerow or undisturbed ground D2. Current damage This could include evidence of pollution, piles is free of damage caused by human activities of manure or rubble, or inappropriate management practices (e.g. excessive hedge cutting). nal group - applicable to hedgerows with trees only At least one mature tree per 30m stretch of This criterion addresses if there are sufficient

mature trees (within the scope of planning hedgerow. A mature tree is one that is at E1. Tree age east 2/3 expected fully mature height for the timescales) which are of higher value to , biodiversity. species. At least 95% of hedgerow trees are in a This criterion identifies if the trees are healthy condition (excluding veteran features subject to damage which compromises the valuable for wildlife). There is little or no E2. Tree health evidence of an adverse impact on tree health survival and health of the individual by damage from livestock or wild animals, specimens ests or diseases, or human activity.

Each attribute is assigned to one of five functional groups (A - E), as indicated in Table TS1-2 and the condition of a hedgerow is The hedgerow condition assessment generates a weighting (score) ranging from 1-3, which is used within the biodiversity metri

FABLE TS1-3: Hedgerow condition assessment and weighting							
С	ondition categories for hedgerows without tre	es					
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					
	where the second s						
	Condition categories for hedgerows with trees						
Category	Condition categories for nedgerows with trees Maximum number of attributes that can fail to meet 'favourable condition' criteria in Table TS1-2	Weighting (score)					
Category Good	Maximum number of attributes that can fail to meet 'favourable condition' criteria in						
	Maximum number of attributes that can fail to meet 'favourable condition' criteria in Table TS1-2 No more than 2 failures in total; AND No more than 1 failure in any functional	Weighting (score)					

CONDIT	ION ASS	ESSMENT	r profo	RMA FOI	R USE WI	TH BIO	DIVERSITY	METRIC	3.0 - AR	EA BASE	D HABIT	ATS		
Date			16/03/2022	-			Metric 3.0 s	Metric 3.0 survey reference (if condition assessment of this						
Weather co	onditions						polygon relates to a wider habitat survey)							
Surveyor na	ame(s)		Rachel Jack	son			Unique polygon reference(s)							
Project / de	evelopment r	name	Priory Barn	Alvescot			Metric 3.0 h	Metric 3.0 habitat type			Grassland - modified grassland			
Site name or location						Condition a	ssessment r	equired? (y/r)	Y				
Onsite or offsite?						Condition sl	neet used			Grassland L	OW			
	eason for assessment (if not aseline condition survey)													
Limitations (if applicable)														
						Ha	abitat descrip	tion						
		Allocate	pass 'P' or fa		,		used for garde				fewer than 1	3 criteria.		
			For Woo	dland & Inte	rtidal condit	ion sheets,	allocate score	es of '1' '2' or	r '3' against e	ach criteria	assessed.			
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	F	F	Р	Р	Р	Р	Р	NA	NA	NA	NA	NA	NA	5 passes
Photo ref														
Target note ref														
Are any criteria non-negotiable? (Y/N) If Yes are they passed?						Condition (0	Good/Mode	rate/Poor):			Moderate			
Suggested enhancement interventions to improve condition score			Seeding wit	h species-ric	ch seed mix s	such as Emo	orsgate EM3.							

Hab Habit						
	1odified grassland					
bitat Desc	ription					
e UKHab						
ndition As	sessment Criteria					
1	There must be 6-8 species per m ² . Note - if a grassland has 9 or more species per m ² it should be classified as a moderate distinctiveness grassland habitat type. NB - this criterion is non-negotiable for achieving good condition.					
2	Sward height is varied (at least 20% of the sward is less than 7 cm and cm) creating microclimates which provide opportunities for insects, breed.	•				
3	Some scattered scrub (including bramble) may be present, but scrub grassland area. Note - patches of shrubs with continuous (more that relevant scrub habitat type.					
4	Physical damage evident in less than 5% of total grassland area, suc machinery use or storage, damaging levels of access, or any other d					
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 Sche species ¹ make up less than 5% of ground cover.	dule 9 of WCA, 1981) and undesirabl				
	Condition Assessment Result	Condition Assessment Sco				
	Passes 6 or 7 of 7 criteria including non-negotiable criterion 7	Good (3)				
	Passes 4 or 5 of 7 criteria; OR Passes 6 of 7 criteria excluding non-negotiable criterion 7	Moderate (2)				
	Passes 0, 1, 2 or 3 of 7 criteria	Poor (1)				
	Notes					

Cirsium vulgare , curled dock Rumex crispus , broad-leaved dock Rumex obtusifolius , common nettle Urtica dioica , greater plantain Plantago major, white clover Trifolium repens , cow parsley Anthriscus sylvestris .

Date			16/03/2022				Metric 3.0 survey reference (if condition assessment of this								
Weather co	onditions						polygon relates to a wider habitat survey)								
Surveyor na	ame(s)		Rachel Jack	son			Unique polygon reference(s)								
Project / de	velopment n	ame	Priory Barn,	Alvescot			Metric 3.0 h	abitat type			Orchard				
Site name o	or location						Condition as	ssessment re	quired? (y/n))	Y				
Onsite or o	ffsite?						Condition sh	neet used			Traditional	Orchard			
	assessment (ndition surve														
Limitations	(if applicable)													
						На	bitat descript	ion							
					Ν	lative orchar	rd and wildflo	wer meadow	V.						
		Allocate			e 'NA' to any	y irrelevant o	rd and wildflo criteria numb allocate score	ers where co	ondition shee			3 criteria.			
Criterion	C1	Allocate C2			e 'NA' to any	y irrelevant o	criteria numb	ers where co	ondition shee			3 criteria. C12	C13	TOTAL	
Criterion Result	C1		For Woo	dland & Inte	e 'NA' to any	y irrelevant o ion sheets, a	criteria numb allocate score	ers where co s of '1' '2' or	ondition shee '3' against ea	ach criteria	assessed.	r	C13 NA	TOTAL 5 passes	
Result	-	C2	For Woo C3	dland & Inte C4	e 'NA' to any rtidal condit C5	y irrelevant o ion sheets, a C6	criteria numb allocate score C7	ers where co s of '1' '2' or C8	ondition shee '3' against ea C9	ach criteria C10	assessed. C11	C12			
Result Photo ref Target	-	C2	For Woo C3	dland & Inte C4	e 'NA' to any rtidal condit C5	y irrelevant o ion sheets, a C6	criteria numb allocate score C7	ers where co s of '1' '2' or C8	ondition shee '3' against ea C9	ach criteria C10	assessed. C11	C12			
Result Photo ref Target note ref	F eria non-neg	С2 Р	For Woo C3	dland & Inte C4	e 'NA' to any rtidal condit C5	y irrelevant o ion sheets, a C6	criteria numb allocate score C7	ers where co s of '1' '2' or C8 P	'3' against ea C9 NA	ach criteria C10	assessed. C11	C12			

	Condition Sheet: ORCHARD Habitat Type					
UKHab Ha	abitat Type					
Grassland	l - Traditional orchard					
Habitat D	escription					
<u>See UKHa</u>						
Conditior	Assessment Criteria					
1	Presence of ancient ¹ and / or veteran ² trees. NB - this criterion is non-negotiable for achieving good condition.					
2	Less than 5% of fruit trees are smothered by scrub. Small patches of dense scru growing between trees can be beneficial to biodiversity, however these should cover.					
3	3 There is evidence of formative and/or restorative pruning to maintain longevity of trees.					
4	Presence of standing and/or fallen dead wood: all mature trees have standing or fallen branches, stems and stumps greater than 10 cm diameter associated with them.					
5	At least 95% of the trees are free from damage caused by humans or animals or rubbing on non-adjusted ties.	e.g. browsing, bark stripping or				
6	Sward height is varied (between 5 cm and 30 cm) and small patches of bare gr structural diversity. Up to 10% cover of patches of tall herb vegetation may be					
7	Species richness of the grassland is equivalent to a medium, high, or very high	distinctiveness grassland.				
8	There is an absence of invasive non-native species (as listed on Schedule 9 of N species ³ make up less than 10% of ground cover.	NCA, 1981) and undesirable				
	Condition Assessment Result	Condition Assessment Score				
	Passes 6, 7 or 8 of 8 criteria, including non-negotiable criterion 1	Good (3)				
	Passes 4 or 5 of 8 criteria; OR Passes 6 or 7 of 8 criteria, excluding non-negotiable criteron 1	Moderate (2)				
	Passes 0, 1, 2 or 3 of 8 criteria	Poor (1)				
	Notes					

Footnote 1 - Ancient trees are exceptionally valuable. Attributes can include: its great age in comparison with other trees of the same species; size, especially very wide trunk; condition; biodiversity value as a result of significant wood decay and the habitat created from the ageing process; and cultural and heritage value. Very few trees of any species become ancient. Ancient trees can be classified using the following girth guide at 1.5 m from the ground:

• >2.5m for field maple, rowan, yew, birch, holly and other smaller tree species;

• >4m for oaks, ash, Scot's pine, alder;

 >4.5m for sycamore, lime, horse chestnut, sweet chestnut, elm species, poplar species, beech, willows, other pines and exotics.

Footnote 2 - 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:

1. Rot sites associated with wounds which are decaying $>400 \text{ cm}^2$;

2. Holes and water pockets in the trunk and mature crown >5 cm diameter;

- 3. Dead branches or stems >15 cm diameter;
- 4. Any hollowing in the trunk or major limbs;
- 5. Fruit bodies of fungi known to cause wood decay.

Footnote 3 - Species considered undesirable for this habitat type include: creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, curled dock *Rumex crispus*, broad-leaved dock *Rumex obtusifolius*, common nettle *Urtica dioica*.

CONDITI	ION ASS	ESSMEN	F PROFO	RMA FO	R USE W	ITH BIO	DIVERSIT	Y METRI	C 3.0 - AR	EA BAS	ED HABIT	ATS			
Date			16/03/2022				Metric 3.0	survey refere	ence (if condi	tion assessi	ment of this				
Weather cor	nditions						polygon relates to a wider habitat survey)								
Surveyor na	me(s)		Rachel Jack	son			Unique polygon reference(s)								
Project / dev	velopment r	name	Priory Barn, Alvescot				Metric 3.0	Metric 3.0 habitat type			Mixed woodland				
Site name or location						Condition a	ssessment r	equired? (y/r	ו)	Υ					
Onsite or offsite?						Condition s	heet used			Woodland					
Reason for a baseline con		•													
Limitations (if applicable)															
						Н	abitat descrip	tion							
		Allocate	pass 'P' or fa	il 'F'. Allocat	e 'NA' to an	y irrelevant	criteria numb allocate score	ers where c	ondition shee	et contains	fewer than 1	3 criteria.			
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL	
Result	1	3	3	2	3	3	1	3	1	1	1	1	2	25	
Photo ref															
Target note ref															
Are any criteria non-negotiable? (Y/N) If Yes are they passed?			Condition (Good/Moderate/Poor): Poor												
Suggested enhancement interventions to improve condition score			Plant at leas	st 5 native s	pecies and s	eed unders	tory with nati	ve shade tol	erant grass a	nd shrub sp	ecies.				

ndition Sheet: WOODLAND Habitat Type Noodland and forest - Lowland beech and yew woodland Noodland and forest - Lowland mixed deciduous woodlar oodland and forest - Native pine woodlands oodland and forest - Other coniferous woodland oodland and forest - Other Scot's pine woodland oodland and forest - Other woodland; broadlea oodland and forest - Other woodland; mixed ved Voodland and forest - Upland birchwoods Voodland and forest - Upland birchwoods Voodland and forest - Upland mixed ashwoods Voodland and forest - Upland oakwood Voodland and forest - Wet woodland

Habitat Description	on				
Condition Assess	ment Criteria				
Contractor	Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Score per indicator
1	Age distribution of trees ¹	Three age classes present	Two age classes present	One age class present	1
2	Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland ²	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
3	Invasive plant species ³	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	3
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	2
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	3
6	Open space within woodland ⁴	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	3
7	Woodland regeneration ⁵	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	1
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	3
9	Vegetation and ground flora	Ancient woodland flora indicators present	Recognisable NVC plant community present	No recognisable NVC community	1
10	Woodland vertical structure ⁶	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	1
11	Veteran trees ⁷	Two or more veteran trees per hectare	One veteran tree per hectare	No veteran trees present in woodland	1
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	1
13	Woodland disturbance ⁸	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	2
	6	n n n n n n n n n n n n n n n n n n n	Total sco	re (out of a possible 39)	25
		essment Result •32 (33 to 39)		Condition Asse Good	
	Total score			Modera	
	Total score <	Poor (1)			

Notes

Footnote 1 - 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 >150 years (Old). A recognisable age class should be 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.

te 2 - See EWBG method INDICATOR 2 for more information. Browsing pressure is considered to be significant where >20% of vegetation visible within rvey plot shows damage from any type of browsing pressure listed. each survey p

Footnote 3 - See EWBG method INDICATOR 3 for more information. Check for presence of the following invasive non-native species: American skunk cabbi Lysichiton americanus; Himalayan balsam Impatiens glandulifero; Japanese knotweed Fallopia japonica; Cherry Laurel Prunus laurocerasus; Shallon Gaultheria shallon; Snowberry Symphoricarpos albus; Variegated yellow archangel Lamiastrum galeobdolon subsp. orgenatum; and Rhododendron Rhododendron ponticum.

Footnote 4 - 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.

Footnote 5 - 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, th 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 indicators is a present and present that means natural regeneration processes are happening.

Footnote 6 - 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.

Footnote 7- 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: 1. Rot sites associated with wounds which are decaying >400 cm²; 2. Holes and water pockets in the trunk and mature crown >5 cm diameter; 3. Dead branches or stems >15 cm diameter; 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.

CONDIT	ION ASS	ESSMEN	T PROFO	RMA FO	R USE WI	TH BIODIV	ERSITY N	/IETRIC 3	.0 - AREA	BASED	HABITAT	S		
Date			16/03/2022				Metric 3.0	survey refere	ence (if condi	tion assessn	nent of this			
Weather co	nditions						polygon relates to a wider habitat survey)							
Surveyor na	nme(s)		Rachel Jack	son			Unique polygon reference(s)							
Project / de	velopment r	name	Priory Barn,	Alvescot			Metric 3.0	habitat type			Hedgerow			
Site name or location						Condition assessment required? (y/n)			ı)	γ				
Onsite or offsite?						Condition s	heet used			Hedgerows				
Reason for assessment (if not		(if not												
baseline co	ndition surve	ey)												
Limitations (if applicable)														
						Hab	itat descripti	on						
	Continu	ation of nati	ive beech he	dgerow form	ning natural	boundary arou	nd the Site a	nd blending	with the nativ	/e copse, sca	attered tree	and orchard	habitat.	
			1-1	6										
		Allocat	•			ny irrelevant cr lition sheets, al						criteria.		
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	TOTAL
Result	P	F	P	P	P	P	P	P	NA	NA	NA	NA	NA	7 passes
Photo ref	г	Г	г	Г	Г	г	Г	Г	NA	INA	IN/A	INA	NA	7 passes
Target														
note ref														
Are any crit	eria non-neg	otiable?												
(Y/N)							Condition (Good/Mode	rate/Poor):			Good		
If Yes are th	ey passed?													
Suggested e	enhancemen	t												
intervention	ns to improv	e condition												
score														

UKHab <u>Hal</u>	bitat Type					
Native hed						
Native hed	lgerow - associated wi	th bank or ditch				
Native hed	gerow with trees	ociated with bank or ditch				
Vative spe	cies rich hedgerow					
Native spe	cies rich hedgerow - a	ssociated with bank or ditch				
Native spe	cies rich hedgerow wi	th trees th trees - associated with bank or ditch				
		th trees - associated with bank or ditch				
Habitat De						
See Chapte	er 8 of User Guide					
Condition /	Assessment Criteria					
minimum o criteria to t	riteria for achieving a	enting key physical characteristics, are used for favourable condition in each, are defined. The Handbook and the handbook is the recommen	attributes use similar favourable condition			
nuiviuuai r	ledgerow attributes.	Hedgerow favourable condition attrib				
_		Hedgerow lavourable condition attric	utes			
	and functional (A, B, C, D & E)	Criteria (the minimum requirements for 'favourable condition'	Description			
Core group	is - applicable to all he	dgerow types				
core Broap		ageion (pes	The average height of woody growth			
A1.	Height	>1.5 m average along length	estimated from base of stem to the top of shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees.			
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.			
			This is the vertical gappiness of the woody			
			component of the hedgerow, and its distance from the ground to the lowest leafy			
B1.	Gap - hedge base	Gap between ground and base of canopy	growth.			
D1.	uap - neage base	<0.5 m for >90% of length (unless 'line of trees')				
		,	Certain exceptions to this criterion are			
			acceptable (see page 65 of the Hedgerow Survey Handbook).			
			This is the horizontal gappiness of the wood			
			component of the hedgerow. Gaps are			
			complete breaks in the woody canopy (no			
B2.	Gap - hedge canopy	🛙 Gaps make up <10% of total length and	matter how small).			
o2.	continuity	No canopy gaps >5 m	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).			
			This is the horizontal gappiness of the woody			
			component of the hedgerow. Gaps are			
	Undisturbed ground	>1 m width of undisturbed ground with	complete breaks in the woody canopy (no matter how small).			
C1.	and perennial	perennial herbaceous vegetation for >90% of	-			
	vegetation	length: Ill measured from outer edge of hedgerow,	Access points and gates contribute to the			
		and	overall gappiness, but are not subject to the >5 m criterion (as this is the typical size of a			
		🛙 is present on one side of the hedge (at	>5 m criterion (as this is the typical size of a gate).			
		least)				
			The indicator species used are nettles (Urtica spp.), cleavers (Galium aparine) and			
C2.	Undesirable	Plant species indicative of nutrient	docks (Rumex spp.). Their presence, either			
	perennial vegetation	enrichment of soils dominate <20% cover of	singly or together, should not exceed the			
		the area of undisturbed ground	20% cover threshold.			
			Neophytes are plants that have naturalised in the UK since AD 1500. For information on			
D1.	Invasive and	>00% of the bodgerous and under the	in the UK since AD 1500. For information on neophytes see the JNCC website and for			
-	neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native and	information on invasive non-native species			
		neophyte species	see the GB Non-Native Secretariat website.			
			This criterion addresses damaging activities			
			that may have led to or lead to deterioration			
		>90% of the hedgerow or undisturbed	in other attributes.			
D2.	Current damage	ground is free of damage caused by human activities	This could include evidence of pollution,			
		activities	piles of manure or rubble, or inappropriate			
			management practices (e.g. excessive hedge cutting).			
Additional	group - applicable to	nedgerows with trees only				
warnonal	Stoop - applicable to	reagerows with trees only				
		At least one mature tree per 30m stretch of	This criterion addresses if there are			
E1.	Tree age	hedgerow. A mature tree is one that is at	sufficient mature trees (within the scope of planning timescales) which are of higher			
		least 2/3 expected fully mature height for the species.	value to biodiversity.			
		At least 95% of herdeerow trees are in a				
		At least 95% of hedgerow trees are in a healthy condition (excluding veteran	This criterion identifies if the trees are			
E2.	Tree health	healthy condition (excluding veteran features valuable for wildlife). There is little	subject to damage which compromises the			
	Tree health	healthy condition (excluding veteran				

Each attribute is assigned to one of five functional groups (A - E), as indicated in Table TS1-2 and the condition of a hedgerow. The hedgerow condition assessment generates a weighting (score) ranging from 1-3, which is used within the biodiversity met