

Ref	Species	On/off site	Av. height (m)	Av. width (m)	Av. stem diam (mm)	Av. low crown height (m)	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)
H232	Blackthorn; hawthorn	Off	6.0	2	75	0.0	EM	DH11/E Predominantly blackthorn	Good	Good	10+	C2	1.0
H233	Hawthorn; blackthorn; elder	Off	2.0	2	40	0.0	SM	Offsite railway scrub/hedgerow. Unmanaged; several gaps in varying widths.	Good	Good	10+	C2	0.6
H234	Hawthorn; blackthorn; elder	Off	2.0	2	40	0.0	SM	Offsite railway scrub/hedgerow. Unmanaged; several gaps in varying widths.	Good	Good	10+	C2	0.6
H235	Blackthorn; elder; common ash	Off	5.0	4	90	0.0	EM	DH11/D growing on rail embankment. Establishing trees within group	Good	Good	10+	C2	1.1
H236	Elder; hawthorn	Off	3.0	3	75	0.0	EM	DH11/C small group on rail embankment. Not on topo	Good	Good	10+	C2	1.0
H237	Hawthorn; blackthorn; dog rose	On	1.75	1	75	0.0	M	DH10/F Managed on all sides. Ditch to east. Intermittent gaps	Fair	Fair	10+	C2	1.0
H238	Field maple; English oak; ash; hazel; hawthorn; blackthorn; dogrose; elder	Off	12.0	5	400	0.0	EM	DH11/A Off-site neglected hedge on railway embankment; field side maintained by flail	Good	Fair	20+	B2	4.8
H239	Hawthorn; blackthorn; dog rose	On	1.5	1	75	0.0	M	DH10/G Managed on all sides. Ditch to east. Intermittent gaps	Fair	Fair	10+	C2	1.0
H240	Hawthorn; dog rose	On	1.5	1	75	0.0	M	DH10/H Managed on all sides. Ditch to east. Intermittent gaps	Fair	Fair	10+	C2	1.0
H241	Hawthorn; dog rose	On	1.5	1	75	0.0	M	DH10/I Managed on all sides. Ditch to east. Intermittent gaps	Fair	Fair	10+	C2	1.0
H242	Field maple	On	1.5	1	75	0.0	M	DH10/J Managed on all sides. Ditch to east.	Fair	Fair	10+	C2	1.0
H243	Field maple; English oak; ash; hawthorn; blackthorn; dogrose; elder	Off	12.0	5	350	0.0	EM	Off-site neglected hedge on railway embankment; field side maintained by flail	Good	Fair	20+	B2	4.2
H244	Hawthorn; Wych elm; elder; blackthorn	On	6.0	3	75	0.0	EM	DH12/G Growing in field boundary ditch. Some dead elm in group	Fair	Fair	10+	C2	1.0
H245	Blackthorn	Off	3.5	2	80	0.0	SM	On railway side; field sides maintained by flail	Good	Fair	20+	B2	1.0
H246	Hawthorn; crack willow; goat willow; Wych elm	On	6.0	3	75	0.0	EM	DH12/F Field boundary ditch to north	Fair	Fair	10+	C2	1.0
H247	Hawthorn; blackthorn; elder	On	4.0	3	75	0.0	M	DH12/E. Field boundary ditch to north	Good	Good	20+	B2	1.0
H248	Hawthorn; elder	On	4.0	2	75	0.0	EM	DH12/D Field boundary to north	Fair	Fair	10+	C2	1.0
H249	Field maple; ash; dogrose; elder	Off	8.0	4.5	250	0.0	EM	Off-site neglected hedge on railway embankment; field side maintained by flail	Good	Fair	20+	B2	3.0
H250	Hawthorn; field maple	On	6.0	3	100	0.0	EM	DH12/C Field boundary to north	Good	Fair	10+	C2	1.3

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H251	Hawthorn; blackthorn; common ash; elder	On	6.0	3	100	0.0	EM	DH12/B field boundary ditch to north. Unmanaged hedgerow species	Fair	Fair	10+	C2	1.3
H252	Hawthorn; elder; common ash	On	5.0	4	100	0.0	EM	DH12/A Field boundary ditch to north. Unmanaged hedge row species.	Fair	Fair	10+	C2	1.3
H253	Hawthorn; blackthorn; field maple; elm; dogrose	On	1.5	1.5	80	0.0	SM	DH29 Maintained by flail	Good	Fair	40+	B2	1.0
H254	Hawthorn; dog rose	On	1.75	1.5	75	0.0	EM	DH30/A predominantly hawthorn. Maintained on all sides	Good	Good	20+	B2	1.0
H255	Hawthorn; blackthorn; field maple; elm; dogrose	On	1.25	1.25	80	0.0	SM	Maintained by flail	Good	Fair	40+	B2	1.0
H256	Hawthorn; blackthorn; ash; elm; dogrose; elder	On	1.5	1.25	90	0.0	SM	Maintained by flail	Good	Fair	40+	B2	1.1
H257	Hawthorn; dog rose	On	1.75	1.5	75	0.0	EM	DH30/B predominantly hawthorn. Maintained on all sides	Good	Good	20+	B2	1.0
H258	Hawthorn; dog rose	On	1.75	1.5	75	0.0	EM	DH31 predominantly hawthorn. Maintained on all sides	Good	Good	20+	B2	1.0
H259	Hawthorn; dog rose	On	1.75	1.5	75	0.0	EM	DH30/C predominantly hawthorn. Maintained on all sides	Good	Good	20+	B2	1.0
H260	Hawthorn; blackthorn; elm; elder	On	1.5	1.5	80	0.0	SM	Maintained by flail	Good	Fair	40+	B2	1.0
H261	Hawthorn; field maple; dog rose	On	1.0	0.5	75	0.0	M	DH30/C maintained on all sides at low height	Fair	Fair	10+	C2	1.0
H262	Hawthorn; field maple; dog rose; common ash	On	1.5	1	75	0.0	M	DH41 maintained on all sides. Ditch to south	Good	Good	10+	B2	1.0
H263	Hawthorn; field maple; dog rose; common ash	On	1.0	0.5	75	0.0	M	DH30/D maintained on all sides at low height. Minor gaps	Fair	Fair	10+	C2	1.0
H264	Hawthorn; blackthorn; ash; elm; dogrose	On	1.5	1.25	80	0.0	SM	Maintained by flail	Good	Fair	40+	B2	1.0
H265	Hawthorn; field maple; ash; elm; dogrose	On	1.5	1.25	80	0.0	SM	Maintained by flail	Good	Fair	40+	B2	1.0
H266	Hawthorn; field maple; dog rose; common ash	On	1.0	0.5	75	0.0	M	DH30/E maintained on all sides at low height. Minor gaps	Fair	Fair	10+	C2	1.0
H267	Hawthorn; field maple; dog rose; common ash	On	1.5	1	75	0.0	M	DH40/A maintained on all sides. Ditch to south	Good	Good	20+	B2	1.0
H268	Hawthorn; elm; dogrose	On	1.5	1.25	80	0.0	SM	Maintained by flail; hedge becomes disjointed to N with 2x gaps <6m	Good	Fair	20+	B2	1.0

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H269	Hawthorn; field maple; dog rose; Wych elm; common ash	On	1.5	1	75	0.0	M	DH40/B maintained on all sides. Minor gaps	Fair	Fair	20+	B2	1.0
H270	Hawthorn; field maple; Wych elm; elder; dog rose; common ash	On	1.5	0.5	75	0.0	M	DH30/F maintained on all sides at low height. Minor gaps	Fair	Fair	20+	B2	1.0
H271	Hawthorn; field maple; dog rose; Wych elm; common ash	On	1.5	1	75	0.0	M	DH40/C maintained on all sides. Minor gaps. Ditch to south	Fair	Fair	20+	B2	1.0
H272	Hawthorn; elm; dogrose; elder	On	1.5	1.25	80	0.0	SM	Maintained by flail	Good	Fair	40+	B2	1.0
H273	Hawthorn; field maple; dog rose; Wych elm; common ash	On	1.5	1	75	0.0	M	DH40/D maintained on all sides. Minor gaps. Ditch to south	Fair	Fair	20+	B2	1.0
H274	Hawthorn; field maple; Wych elm; elder; dog rose; common ash	On	1.5	0.5	75	0.0	M	DH30/G maintained on all side. Minor gaps. Ditch to north	Fair	Fair	20+	B2	1.0
H275	Hawthorn; field maple; Wych elm; elder; dog rose; common ash	On	1.5	0.5	75	0.0	M	DH40/E maintained on all side. Minor gaps. Ditch to south	Fair	Fair	20+	B2	1.0
H276	Hawthorn; elm; elder	On	1.5	1.25	80	0.0	SM	Maintained by flail	Good	Fair	40+	B2	1.0
H277	Hawthorn; elm; elder	On	1.5	1.25	80	0.0	SM	Maintained by flail	Good	Fair	40+	B2	1.0
H278	Hawthorn; field maple; Wych elm; elder; dog rose; common ash	On	1.5	0.5	75	0.0	M	DH39/A maintained on all sides. Minor gaps. Ditch to south	Fair	Fair	20+	B2	1.0
H279	Hawthorn; field maple; Wych elm; elder; dog rose; common ash	On	1.5	0.5	75	0.0	M	DH30/H maintained on all sides. Minor gaps. Ditch to north	Fair	Fair	20+	B2	1.0
H280	Blackthorn; hawthorn; field maple; Wych elm	Off	5.0	2.5	100	0.0	EM	DH34/B mature hedge with managed sides within domestic garden. Managed at varying heights	Good	Good	20+	B2	1.3
H281	Hawthorn; field maple; Wych elm; elder; dog rose; common ash	On	1.5	0.5	75	0.0	M	DH39/B maintained on all sides. Minor gaps. Ditch to south	Fair	Fair	20+	B2	1.0
H282	Leyland cypress	Off	7.0	5	300	0.0	M	DH34/A Tree line managed as hedge	Good	Fair	10+	C2	3.6
H283	Common ash; hawthorn	On	1.5	1	75	0.0	EM	DH35/A Ditch to east. Maintained on all sides	Good	Good	20+	B2	1.0
H284	Hawthorn; blackthorn; field maple; common ash	On	1.5	1	75	0.0	M	DH32 Maintained on all sides. Ditch to east	Good	Fair	20+	B2	1.0
H285	Hawthorn	On	1.5	1.25	80	0.0	SM	Maintained by flail	Good	Fair	40+	B2	1.0

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H286	Hawthorn; elm; dogrose; elder	On	1.25	1.25	80	0.0	SM	Maintained by flail; ditch to N	Good	Fair	40+	B2	1.0
H287	Hawthorn; ash; elm	On	1.5	1.25	80	0.0	SM	Maintained by flail	Good	Fair	40+	B2	1.0
H288	Hawthorn; blackthorn; dogrose	On	1.5	1.25	80	0.0	SM	Maintained by flail; 1x gap <1m to N	Good	Fair	40+	B2	1.0
H289	Hawthorn; blackthorn; ash; field maple; dogrose; elder	On	1.5	1.5	80	0.0	SM	Maintained by flail	Good	Fair	40+	B2	1.0
H290	Hawthorn; blackthorn; field maple; elder	On	1.5	1.25	80	0.0	SM	Maintained by flail; ditch to S	Good	Fair	40+	B2	1.0
H291	Hawthorn; blackthorn; ash; field maple; elm; hazel; dogrose; elder	On	1.5	1.5	80	0.0	SM	Maintained by flail	Good	Fair	40+	B2	1.0
H292	Hawthorn; blackthorn; elm; elder; dogrose	On	1.5	1.25	80	0.0	SM	Maintained by flail; sporadic gaps <1m	Good	Fair	40+	B2	1.0
H293	Hawthorn; blackthorn; field maple; elder	On	1.5	1.25	80	0.0	SM	Maintained by flail; ditch to N	Good	Fair	40+	B2	1.0
H294	Hawthorn; blackthorn; apple; dogrose	Off	6.0	4.5	180	0.0	EM	Off-site hedge on railway embankment; field / access track side maintained by flail; 1x apple to approx centre of plot	Good	Fair	40+	B2	2.2
H295	Hawthorn; blackthorn; dogrose	Off	6.0	4.5	180	0.0	EM	Off-site hedge on railway embankment; field / access track side maintained by flail	Good	Fair	40+	B2	2.2
H296	Hawthorn; blackthorn; field maple; ash; sycamore; elm; dogrose; elder	On	1.5	1.25	80	0.0	SM	Maintained by flail; ditch to N	Good	Fair	40+	B2	1.0
H297	Hawthorn; hazel; dogrose; elder	On	1.25	1.25	80	0.0	SM	Maintained by flail	Good	Fair	40+	B2	1.0
H298	Goat willow; hawthorn; blackthorn; dogrose; elder	Off	6.0	5	250	0.0	EM	Off-site neglected hedge on railway embankment; field / access track side maintained by flail	Good	Fair	20+	B2	3.0
H299	Hawthorn; blackthorn; hazel; dogrose; elder	On	1.5	1.5	80	0.0	SM	Maintained by flail; ditch to E	Good	Fair	40+	B2	1.0
H300	English oak; hawthorn; blackthorn; dogrose	Off	6.0	5	250	0.0	EM	Off-site neglected hedge on railway embankment; field sides maintained by flail	Good	Fair	20+	B2	3.0
H301	Hawthorn; blackthorn; hazel; English oak; elder	On	1.25	1.25	80	0.0	SM	Maintained by flail; 1x young oak to W of feature	Good	Fair	40+	B2	1.0
H302	English oak; elm; hawthorn; blackthorn; dogrose; elder	Off	6.0	5	180	0.0	EM	Off-site neglected hedge on railway embankment; field sides maintained by flail	Good	Fair	20+	B2	2.2

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H303	English oak; ash; hawthorn; blackthorn; dogrose; elder	Off	8.0	8	250	0.0	EM	Off-site hedge on railway embankment; field sides maintained by flail	Good	Fair	40+	B2	3.0
H304	Hawthorn; blackthorn; ash; elm; dogrose; elder	On	1.5	1.25	90	0.0	EM	Maintained by flail	Good	Fair	40+	B2	1.1
H305	Field maple; ash; hawthorn; blackthorn; dogrose; elder	Off	13.0	9	400	0.0	EM	Off-site hedge on railway embankment; neglected & outgrown with established ash & maple; field / access track side maintained by flail	Good	Fair	40+	B2	4.8
H306	Hawthorn; blackthorn; dogwood; elm; dogrose	On	1.0	1	80	0.0	SM	Maintained by flail	Good	Fair	40+	B2	1.0
H307	Blackthorn	Off	7.0	4	90	0.0	EM	Mostly off-site with a small spur to the S encroaching onto field boundary; neglected hedge on railway embankment; field / access track side maintained by flail	Good	Fair	20+	B2	1.1
H308	Hawthorn; wych elm; field maple; ash	On	8.0	3	110	0.0	M	Hedgerow species left to outgrow.	Good	Good	40+	C2	1.3
H309	Field maple; English oak; ash; hawthorn; blackthorn; dogrose; elder	Off	8.0	5	250	0.0	EM	Off-site neglected hedge on railway embankment; field side maintained by flail	Good	Fair	20+	B2	3.0
H310	Hawthorn; blackthorn; elder; field maple; hazel;	Off	2.0	1	60	0.0	EM	Boundary hedgerow. Ditch to the south.	Good	Good	40+	B2	0.8
H311	Field maple; English oak; ash; hawthorn; dogrose; elder	Off	8.0	5	250	0.0	EM	Off-site neglected hedge on railway embankment; field side maintained by flail	Good	Fair	20+	B2	3.0
H312	Hawthorn; blackthorn; elder; field maple; hazel;	On	2.0	1	60	0.0	EM	Maintained boundary hedgerow. Ditch to the north.	Good	Good	40+	B2	0.8
H313	Hawthorn; blackthorn; elder; field maple; hazel;	Off	2.0	1	60	0.0	EM	Boundary hedgerow. Ditch to the south.	Good	Good	40+	B2	0.8
H314	Hawthorn; blackthorn; elder; crab apple	On	2.0	1	50	0.0	M	Maintained boundary hedgerow. Ditch to the north. Several gaps shown within topo.	Good	Good	40+	B2	0.6
H315	Hawthorn; blackthorn; elder; crab apple	On	2.0	1	50	0.0	M	Maintained boundary hedgerow. Ditch to the north.	Good	Good	40+	B2	0.6
H316	Hawthorn; blackthorn; elder; field maple; hazel;	On	2.0	1	60	0.0	EM	Maintained boundary hedgerow. Ditch to the north.	Good	Good	40+	B2	0.8
H317	Hawthorn; blackthorn; elder; crab apple	On	2.0	1	50	0.0	M	Maintained boundary hedgerow. Ditch to the north.	Good	Good	40+	B2	0.6
H318	Hawthorn; blackthorn; elder; field maple; hazel	On	2.0	1	80	0.0	EM	Maintained continuous boundary hedgerow. Ditch to the south.	Good	Good	40+	B2	1.0

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H319	Hawthorn; blackthorn; elder; field maple; hazel	On	2.0	1	80	0.0	EM	Maintained continuous boundary hedgerow. Ditch to the south.	Good	Good	40+	B2	1.0
H320	Hawthorn; blackthorn; elder; field maple; hazel	On	2.0	1	80	0.0	EM	Maintained boundary hedgerow. Ditch to the east.	Good	Good	40+	B2	1.0
H321	Hawthorn; wych elm; field maple; ash	On	6.0	2	80	0.0	M	Sides maintained; tops outgrown.	Good	Good	40+	C2	1.0
H322	Hawthorn; blackthorn; elder; field maple; hazel	On	2.0	1	60	0.0	EM	Maintained boundary hedgerow. Ditch to the east.	Good	Good	40+	B2	0.8
H323	Hawthorn; blackthorn; elder; field maple; hazel; wych elm.	On	2.0	1	60	0.0	EM	Maintained boundary hedgerow. Ditch to the east.	Good	Good	40+	B2	0.8
H324	Hawthorn; blackthorn; elder; field maple; hazel;	Off	2.0	1	60	0.0	EM	Boundary hedgerow. Ditch to the south.	Good	Good	40+	B2	0.8
H325	Hawthorn; dogwood; blackberry; elder; blackthorn; wych elm; field maple; ash	On	2.0	1	50	0.0	M	Boundary hedgerow.	Good	Good	40+	B2	0.6
H326	Hawthorn; dogwood; blackberry; elder; blackthorn; wych elm	On	3.0	1	50	0.0	M	Evidence of hedge laying. Boundary hedgerow.	Good	Good	40+	C2	0.6
H327	Hawthorn; dogwood; blackberry; elder; blackthorn; wych elm; field maple; hazel	On	3.0	1	50	0.0	M	Boundary hedgerow.	Good	Good	40+	B2	0.6
H328	Hawthorn; dogwood; blackberry; elder; blackthorn; wych elm; field maple; hazel	On	2.0	1	50	0.0	M	Maintained by boundary hedgerow.	Good	Good	40+	B2	0.6
H329	Hawthorn; wild rose; blackberry; elder; blackthorn; wych elm	Off	2.0	1	50	0.0	M	Maintained hedgerow offsite. 1m left outgrown.	Good	Good	40+	B2	0.6
H330	Hawthorn; dogwood; blackberry; elder; blackthorn; wych elm; field maple	On	2.5	1	50	0.0	M	Boundary hedgerow.	Good	Good	40+	B2	0.6
H331	Hawthorn; wild rose; blackberry; elder; blackthorn; wych elm	On	2.0	1	50	0.0	M	Maintained boundary hedgerow.	Good	Good	40+	B2	0.6
H332	Hawthorn; wild rose; blackberry; elder; blackthorn; wych elm	On	2.0	1	50	0.0	M	Maintained boundary hedgerow.	Good	Good	40+	B2	0.6



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H333	Hawthorn; elder; blackthorn; wild rose; field maple; wych elm	On	3.0	1	50	0.0	M	Predominantly hawthorn. Boundary hedgerow. A few gaps c. 2m wide but overall continuous.	Good	Good	40+	B2	0.6
H334	Hawthorn; elder; blackthorn; wild rose; field maple; wych elm; field maple	On	1.5	1	50	0.0	M	Boundary hedgerow. A few gaps c. 1m wide but overall continuous.	Good	Good	40+	B2	0.6
H335	Hawthorn; wild rose; blackberry; field maple; blackthorn	On	2.0	1	50	0.0	M	Maintained boundary hedgerow.	Good	Good	40+	B2	0.6
H336	Hawthorn; elder; blackthorn	On	2.5	1.5	50	0.0	M	Boundary hedgerow.	Good	Good	40+	B2	0.6
H337	Hawthorn; wild rose; blackberry; field maple; blackthorn	On	2.0	1	50	0.0	M	Maintained boundary hedgerow. Ditch to the east.	Good	Good	40+	B2	0.6
H338	Hawthorn; wild rose; blackberry; field maple; blackthorn	On	2.0	1	50	0.0	M	Maintained boundary hedgerow.	Good	Good	40+	B2	0.6
H339	Hawthorn; elder; blackthorn	On	2.5	1.5	50	0.0	M	Boundary hedgerow.	Good	Good	40+	B2	0.6
H340	Hawthorn; wild rose; blackberry; field maple; blackthorn	On	2.0	1	50	0.0	M	Maintained boundary hedgerow.	Good	Good	40+	B2	0.6
H341	Hawthorn; elder; blackthorn	On	2.5	1.5	50	0.0	M	Boundary hedgerow.	Good	Good	40+	B2	0.6
H342	Hawthorn; wild rose; blackberry; field maple; blackthorn	On	2.0	1	50	0.0	M	Maintained boundary hedgerow.	Good	Good	40+	B2	0.6
H343	Hawthorn; wild rose; blackberry; field maple; blackthorn	On	2.0	1	50	0.0	M	Maintained boundary hedgerow.	Good	Good	40+	B2	0.6
H344	Hawthorn; field maple; apple; dogrose	Off	2.5	2	70	0.0	SM	On railway side; sporadic gaps becoming colonised by brambles & dogrose; field sides maintained by flail	Good	Fair	20+	C2	0.8
H345	Hawthorn; elder; blackthorn; wild rose; field maple; wych elm; crab apple	On	3.5	2	50	0.0	M	Boundary hedgerow.	Good	Good	40+	B2	0.6
H346	Hawthorn; elder; blackthorn; wild rose; field maple; wych elm	On	1.5	1	50	0.0	M	Maintained boundary hedgerow. Ditch to the south.	Good	Good	40+	B2	0.6

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H347	Hawthorn; elder; blackthorn; wild rose; field maple; wych elm	On	1.5	1	50	0.0	M	Boundary hedgerow. A few gaps c. 1m wide but overall continuous.	Good	Good	40+	B2	0.6
H348	Hawthorn; elder; blackthorn; wild rose; field maple; wych elm; dogwood	On	1.5	1	50	0.0	M	Boundary hedgerow. A few gaps c. 1m wide but overall continuous.	Good	Good	40+	B2	0.6
H349	Field maple	Off	4.0	2.5	90	0.0	SM	On railway side; multi stemmed maple; field sides maintained by flail	Good	Fair	20+	C2	1.1
H350	Hawthorn; English oak	Off	3.0	3	70	0.0	SM	On railway side; top & field sides maintained by flail	Good	Fair	20+	C2	0.8
H351	Blackthorn	Off	3.0	3	70	0.0	SM	On railway side; top & field sides maintained by flail	Good	Fair	40+	B2	0.8
H352	Blackthorn; hawthorn; wild rose; field maple; wych elm	On	2.0	1	50	0.0	M	Boundary hedgerow. Predominantly blackthorn.	Good	Good	40+	B2	0.6
H353	Elder; dogwood; hawthorn	On	2.0	1	50	0.0	M	Boundary hedgerow. Predominantly hawthorn.	Good	Good	40+	B2	0.6
H354	Hawthorn; English oak; dogrose; elder	Off	5.0	3.5	80	0.0	SM	On boundary with railway; neglected hedge with establishing young oak; field sides maintained by flail	Good	Fair	20+	B2	1.0
H355	Blackthorn; hawthorn; wild rose; field maple; wych elm	On	2.0	1	50	0.0	M	Boundary hedgerow. Predominantly blackthorn and ivy. Ditch to the east.	Good	Fair	40+	C2	0.6
H356	Elder; dogwood; hawthorn; blackthorn	On	2.0	1	50	0.0	M	Boundary hedgerow. Predominantly hawthorn.	Good	Good	40+	B2	0.6
H357	Elder; dogwood; hawthorn; blackthorn	On	2.0	1	50	0.0	M	Boundary hedgerow. Predominantly hawthorn.	Good	Good	40+	B2	0.6
H358	Hawthorn; blackthorn; dogrose	Off	5.0	3.5	80	0.0	EM	On boundary with railway; field sides maintained by flail	Good	Fair	40+	B2	1.0
H359	Hawthorn; blackthorn; elder	On	5.0	5	90	0.0	EM	Established thicket to field corner; field sides maintained by flail	Good	Fair	40+	B2	1.1
H360	Hawthorn; elder; blackthorn; wild rose; field maple; wych elm	On	2.0	1	50	0.0	M	Maintained boundary hedgerow.	Good	Good	40+	B2	0.6
H361	Hawthorn; elder; blackthorn; wild rose; field maple; wych elm	On	2.0	1	50	0.0	M	Maintained boundary hedgerow.	Good	Good	40+	B2	0.6
H362	Hawthorn; elder; blackthorn; wild rose; field maple; wych elm	On	2.0	1	50	0.0	M	Maintained boundary hedgerow.	Good	Good	40+	B2	0.6
H363	Hawthorn	Off	4.5	6	180	0.0	EM	Off-site orphan section of hedge on railway embankment; field sides maintained by flail	Good	Fair	40+	B2	2.2



Ref	Species	On/off site	Av. height (m)	Av. width (m)	Av. stem diam (mm)	Av. low crown height (m)	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)
H364	Hawthorn	On	2.5	1.5	80	0.0	SM	Maintained by flail	Good	Fair	40+	B2	1.0
H365	Hawthorn; blackthorn; field maple	On	2.5	1.5	80	0.0	SM	Maintained by flail	Good	Fair	40+	B2	1.0
H366	Hawthorn; blackthorn; dogrose; elder	Off	8.0	8	250	0.0	EM	Off-site hedge on railway embankment; field sides maintained by flail	Good	Fair	40+	B2	3.0
H367	Hawthorn; elder; blackthorn; wild rose; field maple; wych elm	On	2.5	1	50	0.0	M	Boundary hedgerow.	Good	Good	40+	B2	0.6
H368	Hawthorn; dogwood; elder; blackthorn; field maple	On	1.5	1	50	0.0	SM	Semi mature boundary hedgerow. Ditch to the north. Tree protection measures still present on stems.	Good	Good	40+	B2	0.6
H369	Hawthorn; dogwood; elder; blackthorn; wych elm	On	2.0	1	50	0.0	M	Boundary hedgerow. Ditch to the west.	Good	Good	40+	B2	0.6
H370	Hawthorn; dogwood; elder; blackthorn	On	1.5	1	50	0.0	M	Maintained boundary hedgerow. Ditch to the north.	Good	Good	40+	B2	0.6
H371	Hawthorn; blackthorn; field maple	On	6.0	3	80	0.0	M	Section of hedgerow at different height; includes overgrown ash and field maple.	Good	Good	40+	B2	1.0
H372	Hawthorn; blackthorn; wild rose p; wych elm;	On	2.0	1.5	50	0.0	M	Predominantly hawthorn. Maintained boundary hedgerow.	Good	Good	40+	B2	0.6
H373	Hawthorn; blackthorn; wild rose; wych elm; elder	On	1.5	1	50	0.0	M	Boundary hedgerow with larger trees in between. Ditch to the north.	Good	Good	40+	C2	0.6
H374	Hawthorn; dogwood; elder; blackthorn; field maple	On	1.5	1	50	0.0	M	Maintained boundary hedgerow. Ditch to the north.	Good	Good	40+	B2	0.6
H375	Hawthorn; blackthorn	On	5.0	2	70	0.0	M	Outgrown part of hedgerow. Ditch to the north. Ivy clad.	Good	Good	40+	B2	0.8
H376	Hawthorn; blackthorn; wild rose; wych elm;	On	2.0	1.5	50	0.0	M	Predominantly hawthorn. Maintained boundary hedgerow.	Good	Good	40+	B2	0.6
H377	Hawthorn; blackthorn; wild rose; wych elm; elder	On	2.0	1.5	50	0.0	M	Maintained boundary hedgerow.	Good	Good	40+	B2	0.6
H378	Hawthorn; blackthorn	On	4.0	2	50	0.0	M	Section of hedgerow at different height	Good	Good	40+	B2	0.6
H379	Hawthorn; blackthorn; wild rose; wych elm; elder	On	4.0	1.5	50	0.0	M	Boundary hedgerow.	Good	Good	40+	B2	0.6
H380	Hawthorn; blackthorn; wild rose; wych elm; elder	On	2.0	1.5	50	0.0	M	Maintained boundary hedgerow.	Good	Good	40+	B2	0.6
H381	Hawthorn; blackthorn; wild rose; wych elm; elder	On	2.0	1.5	50	0.0	M	Maintained boundary hedgerow.	Good	Good	40+	B2	0.6

Ref	Species	On/off site	Av. height (m)	Av. width (m)	Av. stem diam (mm)	Av. low crown height (m)	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)
H382	Hawthorn; dogwood; blackberry; elder; blackthorn; wych elm; field maple; ash	On	2.0	1	50	0.0	M	Boundary hedgerow.	Good	Good	40+	B2	0.6
H383	Hawthorn; blackthorn; wild rose; wych elm; elder	On	4.0	1.5	50	0.0	M	Boundary hedgerow.	Good	Good	40+	B2	0.6
H384	Hawthorn; blackthorn; wild rose; wych elm; elder	On	2.0	1.5	50	0.0	M	Boundary hedgerow.	Good	Good	40+	B2	0.6
H385	Hawthorn; blackthorn; wild rose; wych elm; elder; field maple; crack willow	On	2.5	1.5	50	0.0	M	Boundary hedgerow. Ditch to the north.	Good	Good	40+	B2	0.6
H386	Hawthorn; blackthorn; wild rose; wych elm; elder	On	3.0	1.5	50	0.0	M	Boundary hedgerow.	Good	Good	40+	B2	0.6
H387	Hawthorn; blackthorn; wild rose; wych elm; elder	On	3.0	1.5	50	0.0	M	Boundary hedgerow.	Good	Good	40+	B2	0.6
H388	Hawthorn; blackthorn; wild rose; wych elm; elder	On	4.0	1.5	50	0.0	M	Boundary hedgerow. Sides maintained	Good	Good	40+	B2	0.6
H389	Hawthorn; blackthorn; wild rose; wych elm; elder	On	2.0	1.5	50	0.0	M	Boundary hedgerow; deep ditch to the north.	Good	Good	40+	B2	0.6
H390	Hawthorn; blackthorn; wild rose; wych elm; elder	On	2.0	1.5	50	0.0	M	Maintained boundary hedgerow.	Good	Good	40+	B2	0.6
H391	Hawthorn; blackthorn; hazel; wych elm	On	1.5	1	90	0.0	EM	Boundary maintained hedgerow.	Good	Good	40+	C2	1.1
H392	Hawthorn; blackthorn; wych elm; field maple	On	1.5	1	40	0.0	EM	Boundary maintained hedgerow.	Good	Good	40+	C2	0.6
H393	Hawthorn; blackthorn	On	1.5	1	40	0.0	EM	Boundary maintained hedgerow.	Good	Good	40+	C2	0.6
H394	Blackthorn; hawthorn; elder	On	1.5	3	50	0.0	M	Maintained boundary hedgerow. Predominantly blackthorn.	Good	Good	40+	C2	0.6
H395	Elder	On	1.5	1	40	0.0	EM	Standalone maintained hedgerow tree.	Good	Good	40+	C2	0.6
H396	Hawthorn; blackthorn;	On	2.0	2	40	0.0	EM	Boundary maintained hedgerow; ditch to the north.	Good	Good	40+	B2	0.6
H397	Hawthorn; blackthorn; blackberry; ash; dogwood; field maple	On	1.5	1	60	0.0	EM	Boundary maintained hedgerow.	Good	Good	40+	C2	0.8
H398	Hawthorn; blackthorn; English elm; field maple	On	1.5	1	60	0.0	EM	Boundary maintained hedgerow.	Good	Good	40+	C2	0.8

Ref	Species	On/off site	Av. height (m)	Av. width (m)	Av. stem diam (mm)	Av. low crown height (m)	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)
H399	Hawthorn; blackthorn; field maple; elder	On	2.0	1	80	0.0	EM	Boundary maintained hedgerow.	Good	Good	40+	B2	1.0
H400	Blackthorn; hawthorn; field maple	On	5.0	1.5	80	0.0	M	Sides maintained up to 3m; tops left outgrown.	Good	Good	40+	C2	1.0
H401	Hawthorn; blackthorn; elder; dogwood	On	1.5	1	60	0.0	M	Boundary maintained hedgerow. Ditch to the west.	Good	Good	40+	B2	0.8
H402	Hawthorn; blackthorn; dogwood; field maple	On	2.5	1	50	0.0	EM	Boundary maintained hedgerow; ditch to the southeast.	Good	Good	40+	B2	0.6
H403	Hawthorn; blackthorn; elder	On	1.5	1	50	0.0	EM	Boundary maintained hedgerow.	Good	Good	40+	B2	0.6
H404	Blackthorn; field maple	On	5.0	2	80	0.0	M	Sides maintained up to 3m; tops left outgrown.	Good	Good	40+	C2	1.0
H405	Hawthorn; blackthorn; dogwood	On	2.0	1	50	0.0	EM	Boundary maintained hedgerow. Ditch to the west.	Good	Good	40+	B2	0.6
H406	Hawthorn; blackthorn;	On	1.5	1	40	0.0	EM	Boundary maintained hedgerow with one small outgrown hawthorn c. 4m high.	Good	Good	40+	B2	0.6
H407	Hawthorn; blackthorn; dogwood; wild rose; field maple	On	2.0	1	80	0.0	EM	Boundary maintained hedgerow. Sections of hedge-laying.	Good	Good	40+	B2	1.0
H408	Hawthorn; blackthorn; elder;	On	2.0	1	40	0.0	EM	Boundary maintained hedgerow with one section of bramble 2m wide. Ditch to the south.	Good	Good	40+	B2	0.6
H409	Blackthorn; hawthorn; field maple	On	5.0	2	80	0.0	M	Sides maintained up to 3m; tops left outgrown.	Good	Good	40+	C2	1.0
H410	Blackthorn; hawthorn	On	5.0	2	80	0.0	M	Sides maintained up to 3m; tops left outgrown.	Good	Good	40+	C2	1.0
H411	Hawthorn; blackthorn; wild rose; hazel; crab apple	On	2.0	1	60	0.0	EM	Dense and continuous maintained hedgerow. Evidence of hedge-laying.	Fair	Good	40+	B2	0.8
H412	Hawthorn; blackthorn; field maple	On	2.0	1	100	0.0	M	Boundary maintained hedgerow. Ditch to the east.	Good	Good	40+	C2	1.3
H413	Hawthorn; blackthorn; field maple	On	2.0	1	60	0.0	EM	Dense and continuous maintained hedgerow. Evidence of hedge-laying.	Fair	Good	40+	C2	0.8
H414	Blackthorn; hawthorn	On	5.0	2	80	0.0	M	Sides maintained up to 3m; tops left outgrown.	Good	Good	40+	C2	1.0
H415	Blackthorn; hawthorn; field maple; rhododendron	On	5.0	2	80	0.0	M	Sides maintained up to 3m; tops left outgrown.	Good	Good	40+	C2	1.0
H416	Hawthorn; blackthorn; field maple	On	2.0	1	40	0.5	M	Boundary maintained hedgerow. Ditch to the east. Includes bramble section c. 3m wide.	Good	Good	40+	B2	0.6

Ref	Species	On/off site	Av. height (m)	Av. width (m)	Av. stem diam (mm)	Av. low crown height (m)	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)
H417	Blackthorn; elder; hawthorn	On	5.0	1.5	60	0.0	M	Predominantly blackthorn and hawthorn. Sides maintained; top outgrown. Ditch to the north.	Good	Good	40+	B2	0.8
H418	Hawthorn	On	2.0	1	60	0.5	M	Boundary maintained hedgerow. Ditch to the north.	Good	Good	40+	C2	0.8
H419	Hawthorn; blackthorn; field maple	On	2.0	1	40	0.5	M	Boundary maintained hedgerow.	Good	Good	40+	B2	0.6
H420	Hawthorn; blackthorn; field maple	On	2.0	1	60	0.5	M	Boundary maintained hedgerow. Ditch to the west.	Good	Good	40+	C2	0.8
H421	Hawthorn; blackthorn; field maple	On	2.0	1	40	0.5	M	Boundary maintained hedgerow. Ditch to the north.	Good	Good	40+	B2	0.6
H422	Hawthorn; blackthorn; elder	On	2.0	1	60	0.5	M	Boundary maintained hedgerow. Ditch to the north.	Good	Good	40+	C2	0.8
H423	Hawthorn; blackthorn; wych elm; bush cherry; blackberry	On	2.0	1	50	0.0	EM	Predominantly hawthorn & blackthorn. Dense and continuous maintained hedgerow. Sections of elm are less dense.	Good	Good	40+	B2	0.6
H424	Hawthorn; blackthorn; turkey oak; field maple; plum; dogwood; elder; ash	On	2.0	1.5	40	0.0	EM	BH8 A. Predominantly hawthorn & blackthorn. Dense and continuous maintained hedgerow; except for sections of low vitality turkey oak and field maple.	Fair	Good	40+	B2	0.6
H425	Hawthorn; blackthorn; field maple;	On	2.0	1.5	40	0.0	EM	BH8 B. Predominantly hawthorn & blackthorn. Dense and continuous maintained hedgerow; except for sections of low vitality turkey oak and field maple. Ditch to the south and west	Fair	Good	40+	B2	0.6
H426	Hawthorn; blackthorn	On	2.0	1.5	40	0.0	EM	Low quality hedgerow.	Fair	Good	10+	C2	0.6
H427	Hawthorn; blackthorn; field maple; dogwood	On	2.0	1.5	60	0.0	EM	Predominantly blackthorn. Dense and continuous maintained hedgerow. Deep ditch to the west. One access point 2m wide. Rear of hedgerow outgrown in parts. Evidence of hedge-laying.	Fair	Good	40+	B2	0.8
H428	Hawthorn; blackthorn; bush cherry; honeysuckle; wych elm; ash; Turkey oak; field maple	On	2.0	1.5	40	0.0	EM	Predominantly hawthorn & blackthorn. Dense and continuous maintained hedgerow; except for sections of low vitality wych elm; Turkey oak and ash.	Fair	Good	40+	B2	0.6
H429	Hawthorn; blackthorn; wych elm; field maple; elder; dogwood; honeysuckle	On	1.5	1	40	0.0	EM	Predominantly blackthorn overcome with ivy. Dense and continuous maintained hedgerow. Ditch to the west. 3x sections of 3m wych elm in poor condition.	Good	Good	40+	B2	0.6
H430	Hawthorn; blackthorn; wych elm; field maple	On	2.0	1	50	0.0	EM	Continuous maintained hedgerow; gaps between field maple and wych elm. Ditch to the east and north.	Fair	Good	40+	B2	0.6

Ref	Species	On/off site	Av. height (m)	Av. width (m)	Av. stem diam (mm)	Av. low crown height (m)	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)
H431	Hawthorn; blackthorn; wych elm; field maple	On	1.0	1	40	0.0	EM	Predominantly hawthorn & blackthorn. Dense and continuous maintained hedgerow; sections of field maple less dense.	Good	Good	40+	B2	0.6

**WOODLANDS**

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. Crown radius (m)	Avg. low crown height (m)	Life Stage	Special importance	General Observations	Health & vitality	Structural condition	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
W1	Hawthorn; blackthorn; common ash; English oak; elder	On	3-15	1000	Yes	500	5.0	0.25	EM	None	Dense scrub with more mature ash and oak interspersed within. The more prominent and mature woodland edge trees have been plotted as individuals or as groups	Good	Good	40	B2	6.0
W2	Common ash; grey willow; hawthorn; field maple; Lombardy poplar; hazel	Off	3-17	300	Yes	400	4.0	0.5	SM	None	Copse of broadleaf trees; some early mature but majority are semi mature	Good	Good	40	B2	4.8
W3	Common ash; goat willow; grey willow; hawthorn; field maple; Lombardy poplar; hazel	Off	3-17	1000	Yes	400	4.0	0.5	SM	None	Copse of broadleaf trees; some early mature but majority are semi mature	Good	Good	40	B2	4.8

- The tree survey was carried out with reference to the methodology set out in BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.
- Trees were surveyed individually or as groups where it was considered that they had grown together to form cohesive arboricultural features either aerodynamically (trees that provide companion shelter), visually (e.g. avenues or screens) or culturally (including for biodiversity). However, where it was considered that there was an arboricultural need to differentiate between attributes trees within groups and/or woodlands were also surveyed as individuals.
- Within the tree survey schedule, each surveyed TREE (T), GROUP (G), HEDGEROW (H), WOODLAND (W) or SHRUB MASS on or adjacent to the site is given a reference number which refers to its position on the tree survey and constraints plan.
- TREE SPECIES are listed by common name.
- OOS: The recorded Out Of Scope trees and features refer to either a dead-standing or failed tree; a stump or minor shrubs; where trees are inaccessible or located off-site and unlikely to be affected by the development or, it is found that the trees are undersized according to BS 5837:2012, which stipulates a minimum recordable diameter of 75mm.

The **DIMENSIONS** taken are:

- STEM-No. indicates the number of main stems (i.e. whether the trunk divides at or below 1.5m; (used in the calculation of root protection area (RPA)) "m-s" = Multi-stemmed.
- STEM DIAMETER (measured in millimetres), obtained from the girth measured at approx. 1.5m. For trees with 2 to 5 sub-stems, a notional figure is derived from the sum of their cross-sectional areas. For multi-stemmed trees, the notional diameter may be estimated on the basis of the average stem size x the number of stems. Note: a notional diameter may be estimated where measurement is not possible.
- HEIGHT (measured in metres), recorded to the nearest half metre for dimensions up to 10m and to the nearest whole metre for dimensions over 10m.
- The CROWN SPREAD, taken at the four cardinal points to derive an accurate representation of the tree crown, recorded up to the nearest half metre for dimensions up to 10m and to up the nearest whole metre for dimensions over 10m.
- CROWN CLEARANCES, expressed both as the existing height above ground level of the first significant branch along with its direction of growth (e.g., 2.5m-N) and also in terms of the overall crown e.g., the average height of the crown above ground level. Measurements are recorded to the nearest half metre for dimensions up to 10m and to the nearest whole metre for dimensions over 10m.
- ESTIMATES: where any measurement has had to be estimated, e.g., due to inaccessibility, this is indicated by a "#" suffix to the measurement as shown in the Tree Survey Schedule.

**LIFE STAGE** is defined as follows:

- Y Young: Normally stake dependent, establishing trees. Should be growing fast, usually primarily increasing in height more than spread but as yet making a limited impact upon the landscape.
- SM Semi-mature: Established young trees, normally of good vigour and still increasing in height but beginning to spread laterally. Beginning to make an impact on the local landscape and environment. Semi-mature are still capable of being transplanted without preparation, up to 300mm girth and not yet sexually mature.

- EM Early-mature: Not yet having reached 75% of expected mature size. Established young trees, normally of good vigour and still increasing in height but beginning to spread laterally. Beginning to make an impact on the local landscape and environment.
- M Mature: Well-established trees, still growing with some vigour but tending to fill out and increase spread. Bark may be beginning to crack and fissure. In the middle half of their safe, useful life expectancies.
- LM Late-mature: In full maturity but possibly beyond mature and in a state of natural decline. Still retaining some vigour but any growth is slowing.
- A Ancient: A tree that has passed beyond maturity and is old/aged compared with other trees of the same species. Typically having a very wide trunk and a small canopy.

#### **PHYSIOLOGICAL CONDITION (HEALTH & VITALITY):**

Essentially a snapshot of the general health of the tree based upon its general appearance, its apparent vigour and the presence or absence of symptoms associated with poor health, physiological stress etc. (fungal infections may be recorded here but decay giving rise to structural weakness would be recorded under 'Structural Condition' – see next parameter):

Good: No significant health issues.

Fair: Indications of slight stress or minor disease (e.g., the presence of minor dieback/deadwood or epicormic shoot growth).

Poor: Significant stress or disease noted; larger areas of dieback than above.

Dead: (or Moribund).

#### **STRUCTURAL CONDITION:**

Features affecting the structural stability of the tree include decay, significant deadwood, root-plate instability or significant damage to structural roots, weak forks (e.g. those where bark is included between the members) etc.

Classified as:

Good: No obvious structural defects: basically sound.

Fair: Minor, potential or incipient defects.

Poor: Significant feature(s) likely to lead to actual failure in the medium- to long-term.

Dead: (or Moribund).

#### **ESTIMATED REMAINING CONTRIBUTION:**

An estimate of the length of time in years that a tree might be expected to continue to make a useful contribution to the locality at an acceptable level of risk (based on an assumption of continued routine maintenance):

- Less than 10 years
- 10+ years
- 20+ years
- 40+ years



**SPECIAL IMPORTANCE:**

Trees that are particularly notable as high-value trees such as ancient trees/woodland or veteran trees. Such trees may be regarded as the principal arboricultural features of a site and pose a significant constraint to potential development.

An **ancient** tree is one that has passed beyond maturity and is very old compared with other trees of the same species. Very few trees reach the ancient life stage. **Veteran** trees are often very old but not necessarily so; they may be regarded as 'survivors' that have developed some of the characteristic features of an ancient tree but have not necessarily lived as long. All ancient trees are veterans but not all veteran trees are ancient.

The term '*notable*' carries no weight within the National Planning Policy Framework (NPPF), but is a term that recognises a mature tree which may stand out in the local environment because it is large in comparison with other trees around it.

Ancient woodland is an area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland (ASNW), plantations on ancient woodland sites (PAWS) and ancient replanted woodland (ARW).

**QUALITY CATEGORY:**

Trees are classed as category U, A, B or C, based on criteria given in BS 5837:2012; summary definitions as follows (see BS 5837 for further details). Categories A, B and C are further characterised by the use of sub-categories, which attempt to identify what aspect of the tree is the main source of its perceived value, These are:

- (1) arboricultural qualities
- (2) landscape qualities, and
- (3) cultural, historic or ecological/conservation qualities.

Examples of these qualities for each of the three categories are given below, although these are indicative only.

Note: This is NOT a health and safety classification; the classification does not take into account any requirement for remedial tree care or ongoing maintenance apart from that which may affect the trees' general suitability for retention.

**CATEGORY A: HIGH QUALITY:**

Trees or groups whose retention should be given a particularly high priority within the design process. Normally with an expected useful life expectancy of at least 40 years.

- A1: Notably fine specimens; rare or unusual specimens; essential component trees within groups, semi-formal or formal plantings (e.g., dominant trees within an avenue etc.).
- A2: Trees, groups or woodlands of particular visual importance as landscape features.
- A3: Trees, groups or woodlands of particular significance by virtue of their conservation, historical, commemorative or other value (e.g., veteran trees or wood pasture).

**CATEGORY B: MODERATE QUALITY**

Trees or groups of some importance with a likely useful life expectancy in excess of 20 years. Their retention would be desirable; selective removal of certain individuals may be acceptable but only after full consideration of all alternative courses of action.

- B1: Fair quality but not exceptional; good specimens showing some impairment (e.g., remediable defects, minor storm damage or poor past management).
- B2: Acceptable trees situated such as to have little visual impact within the wider locality. Also the number of trees, perhaps in groups or woodlands, whose value as landscape features is greater collectively than would warrant as individuals (such that the selective removal of an individual would not impact greatly upon the trees' overall, collective value).
- B3: Trees, groups or woodlands with clearly identifiable conservation or other cultural benefits.

**CATEGORY C: LOW QUALITY:**

Trees or groups of rather low quality, although potentially capable of retention for at least approx. 10 years. Also small trees with stems below 150mm diameter.

Potentially retainable, but not of sufficient value to be regarded as a significant planning constraint.

- C1: Unremarkable trees of very limited merit or significantly impaired condition.
- C2: Trees offering only low- or short-term landscape benefits; also secondary specimens within groups or woodlands whose loss would not significantly diminish their landscape value.
- C3: Trees with extremely limited conservation or other cultural benefits.

**CATEGORY U: VERY LOW QUALITY**

Trees likely to prove to be unsuitable for retention for longer than 10 years should any significant increase in site usage arise as a result of development. E.g., dead or moribund trees; those at risk of collapse or in terminal decline; trees that will be left unstable by other essential works such as the removal of nearby category U trees; trees infected by pathogens that could materially affect other trees; low-quality trees that are suppressing better specimens. (Category U trees may have conservation values that it might be desirable to preserve. This category may also include trees that should be removed irrespective of any development proposals.)

**ROOT PROTECTION AREA (RPA):**

These are normally represented as a circle centred on the base of each tree stem with a radius of 12 times the stem diameter, measured at 1.5m above ground level. The shape of the RPA may be altered where site conditions dictate that there are sound reasons to do so.

**VETERAN OR ANCIENT TREE BUFFER (VTB/ATB)**

In line with the Standing Advice produced by the Forestry Commission and Natural England, this is a buffer zone (in metres) around an ancient or veteran tree that should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5m from the edge of the tree's canopy if that area is larger than 15 times the tree's stem diameter.

**ANCIENT WOODLAND BUFFER (FOR ASNW, PAWS OR ARW)**

In line with the Standing Advice produced by the Forestry Commission and Natural England, this is a buffer zone of at least 15 metres to avoid root damage. Where assessment shows other impacts are likely to extend beyond this distance, a larger buffer zone may be required.

## THE IMPORTANCE OF TREES

### Wider benefits:

There is a growing body of evidence that trees bring a wide range of benefits to the places where people live.

Some *economic* benefits of trees include:

- Trees can increase property values
- As trees grow larger, the lift they give to property values grows proportionately
- They can improve the environmental performance of buildings by reducing heating and cooling costs, thereby cutting bills
- Mature landscapes with trees can be worth more as development sites
- Trees create a positive perception of a place for potential property buyers
- Urban trees improve the health of local populations, reducing healthcare costs

Some *social* benefits of trees include:

- Trees help create a sense of place and local identity
- They benefit communities by increasing pride in the local area
- They can create focal points and landmarks
- They have a positive impact on people's physical and mental health
- They can have a positive impact on crime reduction

Some *environmental* benefits of trees include:

- Urban trees reduce the 'urban heat island effect' of localised temperature extremes
- They provide shade, making streets and buildings cooler in summer
- They help remove dust and particulates from the air
- They help to reduce traffic noise by absorbing and deflecting sound
- They help to reduce wind speeds
- By providing food and shelter for wildlife, they help increase biodiversity
- They can reduce the **effects** of flash flooding by slowing the rate at which rainfall reaches the ground
- They can help remediate contaminated soil

### On new development sites:

Trees bring many benefits to new development. Where retained successfully they can form important and sustainable elements of green infrastructure, contribute to urban cooling and reduce energy demands in buildings. Their importance is acknowledged in relation to adaptation to the effects of climate change. Other benefits brought by trees include:

- Increasing property values
- Visual amenity
- Softening, complementing and adding maturity to built form
- Displaying seasonal change
- Increasing wildlife opportunities in built-up areas
- Contributing to screening and shade
- Reducing wind speed and turbulence

## NATIONAL PLANNING POLICY

The National Planning Policy Framework 2023 (NPPF paragraph 186) states that, when determining planning applications, local planning authorities should apply the following principle:

*c) 'development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused unless there are wholly exceptional reasons and a suitable compensation strategy exists.'*

In this respect, the following definitions apply:

*'Ancient woodland: An area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland and plantations on ancient woodland sites (PAWS)', and*

*'Ancient or veteran tree: A tree which, because of its age, size and condition, is of exceptional biodiversity, cultural or heritage value. All ancient trees are veteran trees. Not all veteran trees are old enough to be ancient, but are old relative to other trees of the same species. Very few trees of any species reach the ancient life stage.'*

*Note: Further information from the National Planning Policy Guidance Suite and Standing Advice is provided in the design guidance section.*

Other paragraphs of the NPPF 2023 of relevance to this report are:

Paragraph 136: *'Trees make an important contribution to the character and quality of urban environments, and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly-*

*planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users.'*

Paragraph 180: *'Planning policies and decisions should contribute to and enhance the natural and local environment by:*

*b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland.'*

## **STATUTORY CONTROLS**

### Statutory tree protection

Works to trees that are covered by Tree Preservation Orders (TPOs) or are within a Conservation Area (CA) require permission or consent from the Local Planning Authority. Where information is available on any Statutory designations such as this they are identified within the summary table in Section 1 and on the Tree Survey and Constraints Plan in Section 2.

Notwithstanding specific exceptions and in general terms, a TPO prevents the cutting down, uprooting, topping, lopping, wilful damage or wilful destruction of protected trees or woodlands without the prior written consent of the LPA.

Penalties for contravention of a TPO tend to reflect the extent of damage caused but can, in the event of a tree being destroyed, result in a fine of up to £20,000 if convicted in a Magistrates' Court, or an unlimited fine if the matter is determined by the Crown Court.

Similarly, and again notwithstanding specific exceptions, it is an offence to carry out any works to a tree in a Conservation Area with a trunk diameter greater than 75mm diameter at 1.5 height without having first provided the LPA with 6 weeks written notification of intent to carry out the works.

On many non-residential sites (excluding specific exemptions) there is also a statutory restriction relating to tree felling that relates to quantities of timber that can be removed within set time periods. In basic terms, it is an offence to remove more than 5 cubic metres of timber in any one calendar quarter without having first obtained a felling licence from the Forestry Commission.

Any proposed tree works that are planned to be carried out on-site must be carried out in accordance with the statutory controls outlined.

### Statutory Wildlife Protection

Although preliminary visual checks from ground level of likely wildlife habitats are made at the time of surveying, detailed ecological assessments of wildlife habitats are not made by the arboriculturist and fall outside of the scope of this report.

Trees that contain holes, splits, cracks and cavities could potentially provide a habitat for protected species such as bats in addition to birds and small mammals. It is advised that in some instances specialist ecological advice may be required. This may result in tree works being carried out following a detailed climbing inspection of the tree to ensure that protected species or their nests/roosts are not disturbed. If any are found, the site manager, site owner or consulting arboriculturist should be informed and appropriate action taken as recommended by the appointed Ecologist or the relevant Statutory Nature Conservation Organisation (SNCO): Natural England, Scottish Natural Heritage or Natural Resources Wales.

It is advised that tree/hedgerow works are carried out with the understanding that birds will generally nest in trees, hedges and shrubs between March and August. This time period only indicates likely nesting times and as such diligence is required when undertaking tree works at all times.

Irrespective of the time of year and other than any actions approved under General Licence, it is an offence to intentionally kill, injure or take any wild bird or to intentionally take, damage or destroy the nest or eggs of any wild bird. Ideally, tree operations should be avoided during the likely bird nesting period. However, any tree works should always only be carried out following a preliminary visual check of the vegetation.

For information, the Wildlife and Countryside Act 1981 (as amended), The Countryside and Rights of Way Act 2000 (as amended) and the Conservation of Habitat and Species Regulations 2010, form the basis of the statutory legislation for flora and fauna in England and Wales. A different legislative framework applies in Scotland and Northern Ireland.

Any proposed tree works that are planned to be carried out on site must be carried out in accordance with any relevant statutory controls, outlined above.

## DESIGN GUIDANCE

### Approach

The approach adopts the guidelines set out in the British Standard BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations. The process is broken down to coordinate with the key elements within both the RIBA Plan of Work (2013) and British Standard 5837:2012 as set out in the table below:

Information Stage	RIBA Stage	BS 5837:2012
Stage A – Tree Survey	2: Concept	4: Feasibility
Stage B – Arboricultural Impact Assessment	3: Developed design	5: Proposals
Stage C – Arboricultural Method Statement	4: Technical design	6: Technical Design
Stage D – Arboricultural Site Supervision	5: Construction	7: Demolition and construction

A hierarchical approach is adopted to achieve optimum use of the site and location of built structures. This is set out below:

### Avoid

The starting point of Site layout design should be to avoid the RPA of retained trees and provide suitable clearance from above ground constraints [tree canopies]. Where possible building lines should be at least 2m outside the RPA to provide working space for construction. However, protection measures can be taken if such clearance is not achievable.

### Mitigate

Where intrusion within the RPA is unavoidable then its impact on the tree can be mitigated by specialist measures:

Foundations that avoid trenching e.g., screw piles, suspended floor slabs or casting at ground level for lightweight structures such as bin and cycle stores.

Limited use may be made for parking, drives or hard surfaces within the root protection areas, subject to advice from a qualified arboriculturist. Cellular confinement systems that enable hard surfaces to be built above existing soil levels are acceptable methods subject to site-specific soil conditions.

Service runs that cannot be routed outside the RPA(s) can be installed by, for example, thrust boring, directional drilling, air excavation or hand digging. These operations often require supervision by the project arboriculturist.

### Compensate

Replacement planting can ensure the continuity of tree cover where tree removal is unavoidable or desirable. Off-site provision may be considered in some circumstances but this will require negotiation with the local planning authority.

### Considerations:

For proposed residential developments, consideration must be given to numerous factors relating to future tree growth and orientation.

### Tree constraints

#### Root Protection Areas:

With reference to BS 5837:2012, a root protection area (RPA) is defined as “a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree’s viability, and where the protection of the roots and soil structure should be treated as a priority”. **“The default position [when considering design layout in relation to RPAs] should be that structures are located outside the RPAs of trees to be retained”.**

BS 5837:2012 states (4.6.2) that, “where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area should be produced.” The BS goes on to state that, “modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution,” and that any deviation from the original circular plot should take into account:

- Morphology and disposition of roots;
- topography and drainage;
- soil type and structure;
- the likely tolerance of the tree to root damage/disturbance.

#### Additional buffer zones beyond the RPA:

The following text is taken from the Standing Advice produced by the Forestry Commission and Natural England as included in the National Planning Policy Guidance:

‘A buffer zone’s purpose is to protect ancient woodland and individual ancient or veteran trees. The size and type of buffer zone should vary depending on the scale, type and impact of the development’.

#### Ancient woodland buffer:

‘For ancient woodlands, you should have a buffer zone of at least 15 metres to avoid root damage. Where assessment shows other impacts are likely to extend beyond this distance, you’re likely to need a larger buffer zone. For example, the effect of air pollution from development that results in a significant increase in traffic’.

Ancient and veteran tree buffer:

'A buffer zone around an ancient or veteran tree should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5m from the edge of the tree's canopy if that area is larger than 15 times the tree's diameter'.

Above ground:

Above ground constraints posed by trees describe the capacity for trees to have an overbearing or dominating effect on new developments; usually post-occupancy. Typical above ground constraints include a number or combination of inconveniences including shading, branch spread, movement of trees during strong winds and so on. If not adequately considered, above ground constraints can lead to repeated requests to fell or heavily prune retained and protected trees.

Shade:

Adverse shading and blocked views from windows raise concerns for incoming residents, which may lead to pressure to fell or remove trees in the future. Wherever possible it is advisable to arrange fenestration away from tree canopies to lessen the conflict or increase window size to accommodate ambient light.

Conversely, appropriately designed development can use existing or new trees to create necessary and welcome shade and screening.

As part of the adopted approach the above considerations and constraints are assessed cumulatively to provide clear and site-specific advice on the areas of a site most suitable for the location of development.

Dependent on the site and nature of the proposed development, the Tree Survey and Constraints Plans may show the following:

*Recommended Developable area* - an advisory area defined to minimise arboricultural impacts using standard approaches to construction. Restricting proposed development to this area will limit the risk of harm to retained trees and of the Local Planning Authority objecting to the proposed development. It may be possible to propose development outside of this area but specific 'low impact' construction techniques may need to be recommended.

*Recommended Buffer to development* - similar to the Recommended Developable Area but defined as a line marking a suitable buffer to retained trees. More commonly used on large sites or sites where the presence of trees is localised.

**Tree Opportunities**

Depending on the scale of developments existing trees can often provide opportunities to enhance the existing arboricultural resource of a site by bringing it into good management or by putting in place remedial measures e.g., soil amelioration.

Appropriately designed new tree planting is extremely important in maintaining healthy and sustainable tree populations. For the reasons highlighted, new trees can bring many benefits to new developments. It is critical to the establishment of new tree planting that the locations, species and specification of new trees are appropriate. Subsequently, the sourcing of high-quality stock, suitable planting and the provision of post-planting maintenance are essential to allow new trees to establish and mature over time.