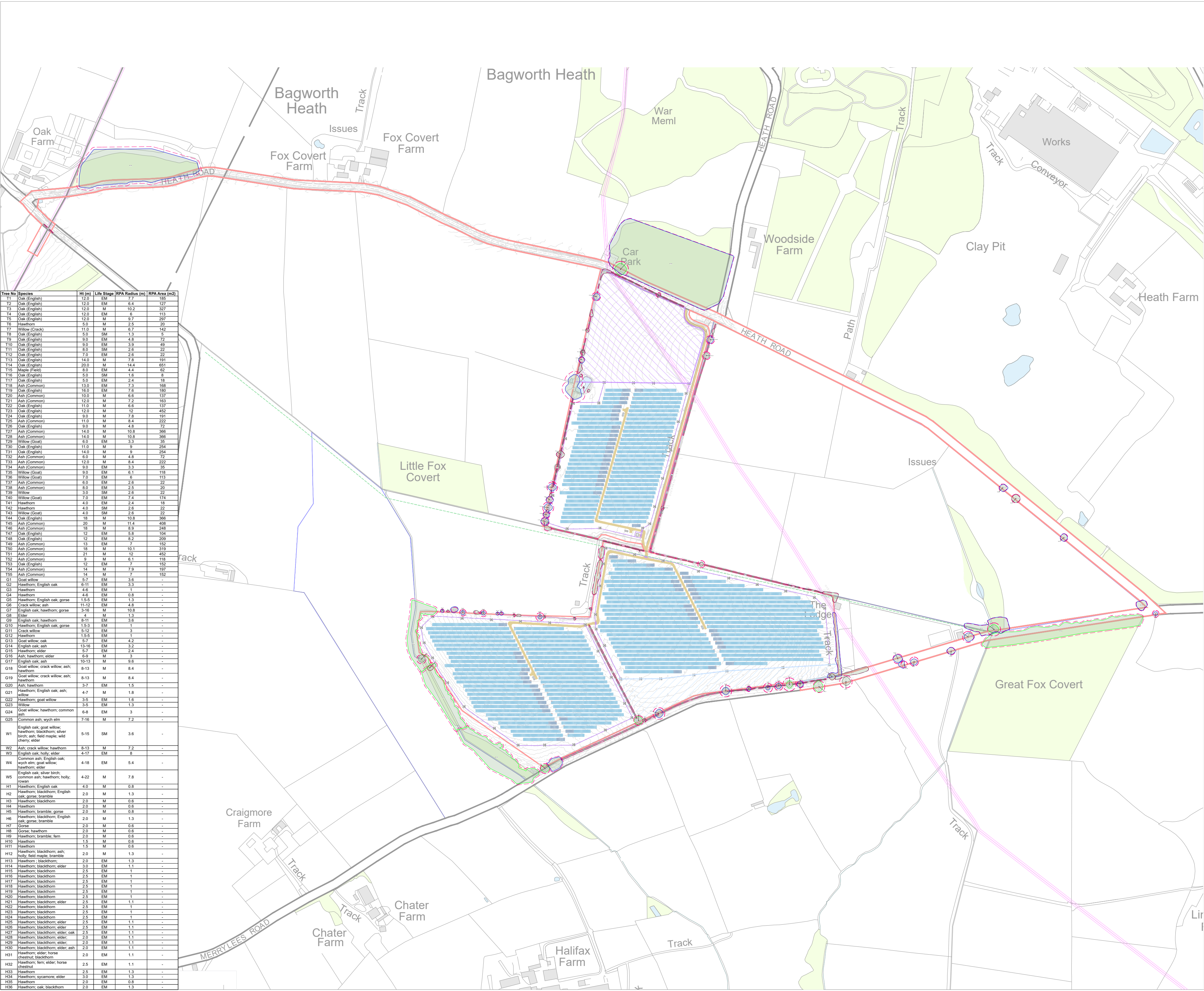




Tree No	Species	Ht (m)	Life Stage	RPA Radius (m)	RPA Area (m2)
T1	Oak (English)	12.0	EM	7.7	185
T2	Oak (English)	12.0	EM	6.4	127
T3	Oak (English)	12.0	M	10.2	327
T4	Oak (English)	12.0	EM	6	113
T5	Oak (English)	12.0	M	9.7	297
T6	Hawthorn	5.0	M	2.5	20
T7	Willow (Crack)	11.0	M	6.7	142
T8	Oak (English)	5.0	SM	1.3	5
T9	Oak (English)	9.0	EM	4.8	72
T10	Oak (English)	9.0	EM	3.9	48
T11	Oak (English)	8.0	SM	2.6	22
T12	Oak (English)	7.0	EM	2.6	22
T13	Oak (English)	14.0	M	7.8	191
T14	Oak (English)	20.0	M	14.4	651
T15	Maple (Field)	8.0	EM	4.4	62
T16	Oak (English)	5.0	SM	1.6	8
T17	Oak (English)	5.0	EM	2.4	18
T18	Ash (Common)	13.0	EM	7.3	168
T19	Oak (English)	16.0	EM	7.6	180
T20	Ash (Common)	10.0	M	6.6	137
T21	Ash (Common)	12.0	M	7.2	163
T22	Oak (English)	11.0	M	6.6	137
T23	Oak (English)	12.0	M	12	452
T24	Oak (English)	9.0	M	7.8	191
T25	Ash (Common)	11.0	M	8.4	222
T26	Oak (English)	9.0	M	4.8	72
T27	Ash (Common)	14.0	M	10.8	366
T28	Ash (Common)	14.0	M	10.8	366
T29	Willow (Goat)	6.0	EM	3.3	35
T30	Oak (English)	11.0	M	9	224
T31	Oak (English)	14.0	M	9	224
T32	Ash (Common)	6.0	M	4.8	72
T33	Ash (Common)	12.0	M	8.4	222
T34	Ash (Common)	9.0	EM	3.3	35
T35	Willow (Goat)	9.0	EM	6.1	119
T36	Willow (Goat)	7.0	EM	6	113
T37	Ash (Common)	6.0	EM	2.6	22
T38	Ash (Common)	8.0	EM	2.5	20
T39	Willow	3.0	SM	2.6	22
T40	Willow (Goat)	7.0	EM	7.4	174
T41	Hawthorn	4.0	EM	2.4	18
T42	Hawthorn	4.0	SM	2.6	22
T43	Willow (Goat)	4.0	SM	2.6	22
T44	Oak (English)	18	M	10.8	366
T45	Ash (Common)	20	M	11.4	408
T46	Ash (Common)	18	M	8.9	248
T47	Oak (English)	12	EM	5.8	104
T48	Oak (English)	12	EM	8.2	209
T49	Ash (Common)	13	EM	7	162
T50	Ash (Common)	18	M	10.1	319
T51	Ash (Common)	21	M	12	452
T52	Ash (Common)	9	M	6.1	118
T53	Oak (English)	12	EM	7	162
T54	Ash (Common)	14	M	7.9	197
T55	Ash (Common)	14	M	7	162
G1	Goat willow	6-7	EM	3.6	-
G2	Hawthorn; English oak	6-11	EM	3.3	-
G3	Hawthorn	4-6	EM	-	-
G4	Hawthorn	4-6	EM	0.8	-
G5	Hawthorn; English oak; gorse	1-5.5	EM	1.3	-
G6	Crack willow; ash	11-12	EM	4.8	-
G7	English oak; hawthorn; gorse	3-16	M	10.8	-
G8	Elder	4	M	1.3	-
G9	English oak; hawthorn	8-11	EM	3.6	-
G10	Hawthorn; English oak; gorse	1-5.3	EM	1	-
G11	Crack willow	5-12	EM	3	-
G12	Hawthorn	1-5.5	EM	1	-
G13	Goat willow; oak	5-7	EM	4.2	-
G14	English oak; ash	13-16	EM	3.2	-
G15	Hawthorn; elder	5-7	EM	2.4	-
G16	Ash; hawthorn; elder	6-9	M	3	-
G17	English oak; ash	10-13	M	9.6	-
G18	Goat willow; crack willow; ash; hawthorn	8-13	M	8.4	-
G19	Goat willow; crack willow; ash; hawthorn	6-13	M	8.4	-
G20	Ash; hawthorn	3-7	EM	1.5	-
G21	Hawthorn; English oak; ash; willow	4-7	M	1.8	-
G22	Hawthorn; goat willow	3-5	EM	1.6	-
G23	Willow	3-5	EM	1.3	-
G24	Goat willow; hawthorn; common ash	6-8	EM	3	-
G25	Common ash; wych elm	7-16	M	7.2	-
W1	English oak; goat willow; hawthorn; blackthorn; silver birch; ash; field maple; wild cherry; elder	5-15	SM	3.6	-
W2	Ash; crack willow; hawthorn	8-13	M	7.2	-
W3	English oak; holly; elder	4-17	EM	8	-
W4	Common ash; English oak; wych elm; goat willow; hawthorn; elder	4-18	EM	5.4	-
W5	English oak; silver birch; common ash; hawthorn; holly; rowan	4-22	M	7.8	-
H1	Hawthorn; English oak	4.0	M	0.8	-
H2	Hawthorn; blackthorn; English oak; gorse; bramble	2.0	M	1.3	-
H3	Hawthorn; blackthorn	2.0	M	0.6	-
H4	Hawthorn	2.0	M	0.6	-
H5	Hawthorn; bramble; gorse	2.0	M	0.8	-
H6	Hawthorn; blackthorn; English oak; gorse; bramble	2.0	M	1.3	-
H7	Gorse	2.0	M	0.6	-
H8	Gorse; hawthorn	2.0	M	0.6	-
H9	Hawthorn; bramble; fern	2.0	M	0.6	-
H10	Hawthorn	1.5	M	0.6	-
H11	Hawthorn	1.5	M	0.6	-
H12	Hawthorn; blackthorn; ash; holly; field maple; bramble	2.0	M	1.3	-
H13	Hawthorn; blackthorn	2.0	EM	1.3	-
H14	Hawthorn; blackthorn; elder	3.0	EM	1.1	-
H15	Hawthorn; blackthorn	2.5	EM	1	-
H16	Hawthorn; blackthorn	2.5	EM	1	-
H17	Hawthorn; blackthorn	2.5	EM	1	-
H18	Hawthorn; blackthorn	2.5	EM	1	-
H19	Hawthorn; blackthorn	2.5	EM	1	-
H20	Hawthorn; blackthorn	2.5	EM	1	-
H21	Hawthorn; blackthorn; elder	2.5	EM	1.1	-
H22	Hawthorn; blackthorn	2.5	EM	1	-
H23	Hawthorn; blackthorn; elder	2.5	EM	1	-
H24	Hawthorn; blackthorn	2.5	EM	1	-
H25	Hawthorn; blackthorn; elder	2.5	EM	1.1	-
H26	Hawthorn; blackthorn; elder	2.5	EM	1.1	-
H27	Hawthorn; blackthorn; elder; oak	2.5	EM	1.1	-
H28	Hawthorn; blackthorn; elder	2.0	EM	1.1	-
H29	Hawthorn; blackthorn; elder	2.0	EM	1.1	-
H30	Hawthorn; blackthorn; elder; ash	2.0	EM	1.1	-
H31	Hawthorn; elder; horse chestnut; blackthorn	2.0	EM	1.1	-
H32	Hawthorn; fern; elder; horse chestnut	2.5	EM	1.1	-
H33	Hawthorn	2.5	EM	1.3	-
H34	Hawthorn; sycamore; elder	3.0	EM	1.3	-
H35	Hawthorn	2.0	EM	0.8	-
H36	Hawthorn; oak; blackthorn	2.0	EM	1.3	-

KEY

- Category A Tree - High quality (Retention highly desirable)
- Category A - Hedgerow, Group, Woodland - High quality (Retention highly desirable)
- Category B Tree - Moderate quality (Retention desirable)
- Category B - Hedgerow, Group, Woodland - Moderate quality (Retention desirable)
- Category C Tree - Low quality (May be retained but should not constrain development)
- Category C - Hedgerow, Group, Woodland - Low quality (May be retained but should not constrain development)
- Category U Tree - Very low quality (Mostly unsuitable for retention)
- Category U - Hedgerow, Group, Woodland - Very low quality (Mostly unsuitable for retention)
- Root Protection Area (RPA) - Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and soil volume to maintain the tree's viability
- Shrub mass/offsite tree/out of scope (OOS)
- Tree / Hedgerow / Group to be removed

Note: The original of this drawing was produced in colour – a monochrome copy should not be relied upon. This drawing should be interpreted with reference to the accompanying tree schedule and written advice

0 50 100 150 200 250
Meters

PROJECT TITLE
Heath Road Solar Farm

DRAWING TITLE
Tree Retention & Removal Plan Plan

SCALE 1:4500 @ A2		DRAWING NUMBER BHA_4924_02	
DRAWN BY IM	APPROVED BY RH	REVISION -	SHEET -
		DATE 16/06/2025	

LAYOUT USED WITHIN DRAWING **RCN1008_PLE_01_Rev_11**

CLIENT **Renewable Connections Development Limited**

COORDINATE SYSTEM / DATUM **British National Grid / Newlyn Datum (AOD)**

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INDIVIDUAL TREES

Ref	Species	On/off site	Height (m)	No. of stems	Est diam?	Calc. / actual stem dia. (mm)	Crown radii (m) N-E-S-W	Av. low crown height (m)	1st branch ht (m)	1st branch dir.	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)	RPA m²
T1	Oak (English)	On	12.0	1	-	640	7.0-7.0-7.0-8.0	4.0	0.5	E	EM	Epicormic growth flailed and maintained at base of stem; ditch to the west. No significant defects noted.	Good	Good	40+	B1	7.7	185
T2	Oak (English)	On	12.0	3	-	530	6.0-6.0-6.0-6.0	4.0	0.5	N	EM	Epicormic growth flailed and maintained at base of stem; ditch to the west. Phoenix regeneration from main stem to the north; adding two stems.	Good	Good	40+	B1	6.4	127
T3	Oak (English)	On	12.0	2	Yes	850	8.0-8.0-7.0-8.0	5.0	0.5	E	M	Twin stem; epicormic growth flailed and maintained at base of stem; ditch to the west. No significant defects noted.	Good	Good	40+	B1	10.2	327
T4	Oak (English)	On	12.0	1	Yes	500	7.0-7.0-7.0-7.0	4.0	0.5	E	EM	Epicormic growth flailed and maintained at base of stem; ditch to the west. No significant defects noted.	Good	Good	40+	B1	6.0	113
T5	Oak (English)	On	12.0	2	Yes	810	7.0-8.0-7.0-8.0	4.0	0.5	N	M	Twin stem from base; ditch to the west. No significant defects noted.	Good	Good	40+	B1	9.7	297
T6	Hawthorn	Off	5.0	1	Yes	210	1.0-1.0-1.0-1.0	4.0	0.5	N	M	Offsite hawthorn; ditch to the east.	Good	Good	40+	C1	2.5	20
T7	Willow (Crack)	On	11.0	2	Yes	560	7.0-8.0-7.0-8.0	4.0	0.5	N	M	Twin stem from 0.5m; ditch to the west. Minor deadwood; one historic torn branch resting in ditch.	Good	Fair	40+	C1	6.7	142
T8	Oak (English)	On	5.0	1	Yes	100	1.5-1.5-1.5-1.5	1.0	1.0	E	SM	Small tree located in middle of pond; base under water at time of inspection.	Good	Good	40+	C1	1.3	5
T9	Oak (English)	Off	9.0	1	Yes	400	6.0-6.0-7.0-6.0	5.0	4.0	W	EM	Single stem with slightly stunted form; likely due to exposed location. Ditch to the east.	Good	Good	40+	B1	4.8	72
T10	Oak (English)	Off	9.0	1	Yes	330	5.0-4.0-6.0-5.0	4.0	2.0	N	EM	Epicormic growth flailed on field side; excessive amount of growths on main stem. Ditch to the east and west.	Fair	Good	40+	C1	3.9	49
T11	Oak (English)	Off	8.0	2	Yes	220	4.0-3.0-3.0-3.0	3.0	1.0	N	SM	Epicormic growth flailed on field side. Ditch to the east and west.	Good	Good	40+	C1	2.6	22
T12	Oak (English)	Off	7.0	1	Yes	220	4.0-3.0-5.0-4.0	2.0	1.0	E	EM	Crown flailed on field side up to 4m. Ditch to the east and west.	Good	Good	40+	C1	2.6	22
T13	Oak (English)	Off	14.0	1	Yes	650	6.0-7.0-7.0-6.0	2.0	0.5	E	M	Minor deadwood; exposed location. Ditch to the east and west. Typical for age and species.	Good	Good	40+	B1	7.8	191
T14	Oak (English)	Off	20.0	1	Yes	1200	11.0-11.0-11.0-11.0	6.0	2.0	N	M	Hollowing of stem allowing light to be seen from one side to the other; historic hazard beam on lowest branch to the east; minor deadwood in crown.	Good	Good	40+	A3	14.4	651
T15	Maple (Field)	On	8.0	3	Yes	370	3.0-4.0-3.0-3.0	2.0	0.5	E	EM	Located within hedgerow.	Good	Good	40+	C1	4.4	62
T16	Oak (English)	On	5.0	2	-	130	1.0-2.0-1.0-2.0	0.5	0.5	N	SM	Twin stem on edge of hedgerow; field side previously flailed.	Good	Fair	40+	C1	1.6	8
T17	Oak (English)	Off	5.0	1	Yes	200	4.0-3.0-5.0-3.0	2.0	1.0	E	EM	Flailed on both field and drive side up to 3m. Ditch to the east and west.	Good	Good	40+	C1	2.4	18

Ref	Species	On/off site	Height (m)	No. of stems	Est diam?	Calc. / actual stem dia. (mm)	Crown radii (m) N-E-S-W	Av. low crown height (m)	1st branch ht (m)	1st branch dir.	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)	RPA m²
T18	Ash (Common)	Off	13.0	4	Yes	610	6.0-6.0-6.0-6.0	4.0	0.5	S	EM	Crown lifted over drive; multi-stem from base. No significant defects noted.	Good	Good	40+	C1	7.3	168
T19	Oak (English)	Off	16.0	4	Yes	630	7.0-6.0-7.0-6.0	4.0	0.5	S	EM	Crown lifted over drive; multi-stem from base. No significant defects noted.	Good	Good	40+	B1	7.6	180
T20	Ash (Common)	On	10.0	1	Yes	550	4.0-4.0-4.0-4.0	3.0	3.0	N	M	Inonotus hispidus in upper crown; reduced vitality; 75% remaining.	Fair	Fair	40+	C1	6.6	137
T21	Ash (Common)	On	12.0	1	Yes	600	6.0-6.0-6.0-6.0	4.0	2.0	N	M	Ivy clad; no leaf cover remaining in crown.	Poor	Fair	<10	U	7.2	163
T22	Oak (English)	Off	11.0	1	Yes	550	6.0-6.0-6.0-6.0	3.0	2.0	N	M	Located within boundary hedgerow. Slightly reduced vitality in crown.	Good	Good	40+	B1	6.6	137
T23	Oak (English)	On	12.0	1	Yes	1000	7.0-6.0-7.0-6.0	3.0	2.0	N	M	Located within boundary hedgerow. Ivy along stem; some minor limbs lost but recovering well.	Good	Good	40+	A1	12.0	452
T24	Oak (English)	On	9.0	1	Yes	650	5.0-5.0-5.0-6.0	4.0	2.0	N	M	Located within boundary hedgerow. Slightly reduced vitality in crown. Historic tree work in lower crown.	Good	Good	40+	B1	7.8	191
T25	Ash (Common)	Off	11.0	1	Yes	700	4.0-4.0-4.0-4.0	3.0	3.0	N	M	Historic limb failure at one of main forks.	Good	Fair	40+	B1	8.4	222
T26	Oak (English)	On	9.0	1	Yes	400	4.0-4.0-4.0-4.0	3.0	3.0	N	M	Located within boundary hedgerow.	Fair	Good	40+	B1	4.8	72
T27	Ash (Common)	On	14.0	1	Yes	900	7.0-7.0-7.0-7.0	4.0	2.0	N	M	Ivy clad stem with epicormic growth. Slightly reduced vitality; 90% of leaf cover remained.	Good	Good	40+	B1	10.8	366
T28	Ash (Common)	On	14.0	1	Yes	900	8.0-8.0-8.0-7.0	3.0	3.0	N	M	Ivy clad stem with epicormic growth. Slightly reduced vitality; 90% of leaf cover remained.	Good	Good	40+	B1	10.8	366
T29	Willow (Goat)	On	6.0	10	-	280	4.0-3.0-3.0-3.0	3.0	1.0	N	EM	Part of boundary.	Good	Good	40+	C2	3.3	35
T30	Oak (English)	On	11.0	1	Yes	750	8.0-8.0-8.0-8.0	3.0	4.0	N	M	At corner of two fields; end of hedgerow. Ivy clad throughout stem and crown.	Good	Good	40+	A1	9.0	254
T31	Oak (English)	On	14.0	1	Yes	750	7.0-8.0-7.0-8.0	3.0	4.0	N	M	Boundary tree; along road and field. Ivy clad throughout stem and crown.	Good	Good	40+	A1	9.0	254
T32	Ash (Common)	Off	6.0	1	Yes	400	5.0-7.0-5.0-5.0	0.5	4.0	E	M	Part of boundary group. Ash in severe decline; branch resting onto floor and extends into field. Unable to inspect base.	Poor	Fair	<10	U	4.8	72
T33	Ash (Common)	Off	12.0	1	Yes	700	8.0-7.0-6.0-6.0	8.0	4.0	N	M	Part of boundary group. Ash with c. 40% remaining leaf cover. Unable to inspect base.	Fair	Good	20+	C1	8.4	222
T34	Ash (Common)	On	9.0	1	-	280	3.0-3.0-3.0-3.0	2.0	1.0	N	EM	Well distributed crown.	Good	Good	40+	B1	3.3	35
T35	Willow (Goat)	On	9.0	10	-	510	4.0-4.0-4.0-4.0	2.0	1.0	N	EM	Located on bank of boundary ditch c. 0.5m deep; ditch to the north. Flaied on field side up to 3m from ground level.	Good	Good	40+	B2	6.1	118
T36	Willow (Goat)	On	7.0	7	-	500	4.0-4.0-3.0-4.0	1.0	1.0	N	EM	Located on bank of boundary ditch c. 0.5m deep; ditch to the north. Flaied on field side up to 4m from ground level.	Good	Good	40+	B2	6.0	113

Ref	Species	On/off site	Height (m)	No. of stems	Est diam?	Calc. / actual stem dia. (mm)	Crown radii (m) N-E-S-W	Av. low crown height (m)	1st branch ht (m)	1st branch dir.	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)	RPA m²
T37	Ash (Common)	Off	6.0	1	-	220	3.0-4.0-3.0-3.0	1.0	1.0	N	EM	Located on bank of boundary ditch c. 0.5m deep; ditch to the south. No evidence of decline.	Good	Good	40+	B1	2.6	22
T38	Ash (Common)	Off	8.0	1	-	210	3.0-5.0-4.0-3.0	1.0	1.0	N	EM	Located on bank of boundary ditch c. 0.5m deep; ditch to the south. No evidence of decline.	Good	Good	40+	B1	2.5	20
T39	Willow	On	3.0	6	-	220	2.0-2.0-2.0-2.0	1.0	1.0	N	SM	Ditch to the north.	Good	Good	40+	C1	2.6	22
T40	Willow (Goat)	On	7.0	8	-	620	4.0-4.0-4.0-4.0	1.0	1.0	N	EM	Located on bank of boundary ditch c. 0.5m deep; ditch to the north. Well distributed crown.	Good	Good	40+	B2	7.4	174
T41	Hawthorn	Off	4.0	1	-	200	3.0-2.0-2.0-2.0	0.5	1.0	N	EM	Part of boundary; ditch to the south.	Good	Good	40+	C2	2.4	18
T42	Hawthorn	Off	4.0	6	-	220	2.5-2.0-2.5-2.0	1.0	1.0	N	SM	Shrub sized within scrub.	Good	Good	40+	C2	2.6	22
T43	Willow (Goat)	Off	4.0	6	-	220	2.5-2.0-2.5-2.0	1.0	1.0	N	SM	Shrub sized within scrub.	Good	Good	40+	C2	2.6	22
T44	Oak (English)	Off	18	1	Yes	900	11.0-7.5-10.0-10.0	2.5	3.5	NW	M	Good form.	Good	Good	40+	A1	10.8	366
T45	Ash (Common)	Off	20	1	-	950	9.5-9.0-7.0-7.0	4.5	4	S	M	Decay in branches. Branch fractures and large deadwood. Tree entering state of decline and gradual collapse.	Good	Poor	10+	C1	11.4	408
T46	Ash (Common)	Off	18	1	-	740	8.0-8.5-7.0-9.0	3	2.5	SE	M	Branch fracture wounds and bird nesting holes in branch loss wounds. Blue tit seen emerging. Bird box in tree.	Good	Good	20+	B3	8.9	248
T47	Oak (English)	Off	12	1	-	480	7.0-0.5-7.0-11.0	3	3	W	EM	Asymmetrical form because growing as pair with low-quality ash (not surveyed). Growing to south of ditch.	Good	Good	40+	B1	5.8	104
T48	Oak (English)	Off	12	1	-	680	5.0-6.5-7.0-7.0	3.5	4	W	EM	Growing in ditch line.	Good	Good	20+	B1	8.2	209
T49	Ash (Common)	Off	13	1	-	580	7.0-8.0-6.0-8.5	3	3	W	EM	Growing to south of ditch down roadside bank	Good	Good	20+	B1	7	152
T50	Ash (Common)	Off	18	3	-	840	7.5-12.0-8.5-7.5	5	4.5	S	M	Growing in ditch next to public footpath stile and bridge.	Good	Good	20+	B1	10.1	319
T51	Ash (Common)	Off	21	1	Yes	1000	9.0-9.0-7.0-11.0	7	2.5	-	M	Growing on bank of stream ditch; with roots visible in stream bed. Large old tree with branch loss wounds and deadwood.	Good	Good	20+	A3	12	452
T52	Ash (Common)	On	9	8	-	510	4.0-4.0-3.5-4.5	5	5	-	M	Regrowth from historically laid/coppiced tree.	Good	Good	20+	B3	6.1	118
T53	Oak (English)	Off	12	2	-	580	7.5-6.5-7.0-7.0	3	2.5	-	EM	Twin-stemmed; probably coppice-origin.	Good	Good	40+	B1	7	152
T54	Ash (Common)	Off	14	1	-	660	7.5-8.0-7.5-8.0	4.5	3	SW	M	Decay in branches and branch fracture wounds and stubs.	Fair	Fair	20+	C1	7.9	197
T55	Ash (Common)	Off	14	1	-	580	6.5-9.5-7.0-6.5	3	3	NE	M	Good form.	Good	Good	20+	B1	7	152

GROUPS OF TREES

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. crown radius (m)	Av. low crown height (m)	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)
G1	Goat willow	On	5-7	20	-	300	3.0	1.0	EM	Multi stemmed tree group alongside access road to farm. Flailed up to 4m on field side.	Good	Good	40+	C2	3.6
G2	Hawthorn; English oak	On	6-11	6	-	280	2.0	1.0	EM	Scrub group along field boundary with semi mature English oak at rear of group.	Good	Good	40+	C2	3.3
G3	Hawthorn	On	4-6	4	-	80	1.5	0.5	EM	Scrub group along field boundary within English oak understorey.	Good	Fair	20+	C2	1.0
G4	Hawthorn	On	4-6	5	-	70	1.0	0.5	EM	Scrub group; some historic reductions in height; located along field boundary within English oak understorey.	Good	Good	40+	C2	0.8
G5	Hawthorn; English oak; gorse	On	1.5-5	5	-	100	1.5	0.5	EM	Semi-mature oak and hedgerow species; located along field boundary within English oak understorey.	Good	Fair	40+	C2	1.3
G6	Crack willow; ash	On	11-12	2	Yes	400	7.0	4.0	EM	Ash intertwined with crack willow. Willow collapsed at base; four stems. Ash showing minor signs of ash dieback.	Good	Fair	40+	C2	4.8
G7	English oak; hawthorn; gorse	On	3-16	20	Yes	900	5.0	3.0	M	Mix of on/offsite trees. Three mature oaks connected by small scrub species and semi-mature oak(s).	Good	Good	40+	B2	10.8
G8	Elder	On	4	3	-	110	1.0	0.5	M	Scrub elder group on edge of pond.	Good	Good	10+	C2	1.3
G9	English oak; hawthorn	On	8-11	2	Yes	300	3.0	0.5	EM	Combined crown between oak and hawthorn	Good	Good	40+	C2	3.6
G10	Hawthorn; English oak; gorse	Off	1.5-3	10	-	80	1.5	0.5	EM	Majority of group offsite. Scrub located along field boundary; flailed on field side at parts.	Fair	Fair	40+	C2	1.0
G11	Crack willow	On	5-12	10	Yes	250	4.0	0.5	EM	Four stem willow surrounded by saplings; large wound at base of main stem; torn branches in crown.	Good	Fair	40+	C2	3.0
G12	Hawthorn	On	1.5-5	20	-	80	1.5	0.5	EM	Hedgerow left outgrown of mixed heights; likely not maintained due to high voltage power lines nearby.	Good	Good	20+	C2	1.0
G13	Goat willow; oak	On	5-7	6	-	350	3.0	1.0	EM	Multi stemmed tree group alongside access road to farm; some reduced vitality. Flailed up to 4m from ground level on both sides.	Fair	Good	40+	C2	4.2
G14	English oak; ash	On	13-16	2	Yes	270	5.0	4.0	EM	Two trees; cohesive crown. Ash in decline; 30% leaf cover remaining.	Fair	Good	20+	C2	3.2
G15	Hawthorn; elder	On	5-7	15	-	200	3.0	1.0	EM	Outgrown boundary group.	Good	Good	40+	C2	2.4
G16	Ash; hawthorn; elder	On	6-9	150	-	250	3.0	0.5	M	Linear boundary group; acting as a screen for nearby property.	Good	Good	40+	B2	3.0
G17	English oak; ash	On	10-13	2	-	800	8.0	4.0	M	Ivy clad; shared crown between trees. Ash in slight decline but group overall in good condition.	Good	Good	40+	B2	9.6
G18	Goat willow; crack willow; ash; hawthorn	On	8-13	150	-	700	6.0	3.0	M	Water filled ditch within tree group. Mature trees follow ditch along field boundary. Majority of ash in good condition. Predominantly ash.	Good	Good	40+	A2	8.4
G19	Goat willow; crack willow; ash; hawthorn	On	8-13	100	-	700	6.0	3.0	M	Water filled ditch within tree group. Mature trees follow ditch along field boundary. Majority of ash in good condition.	Good	Good	40+	A2	8.4
G20	Ash; hawthorn	On	3-7	4	Yes	120	2.5	1.0	EM	Slightly dispersed group. Ditch to the north. Flailed on field side.	Good	Good	40+	C2	1.5

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. crown radius (m)	Av. low crown height (m)	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)
G21	Hawthorn; English oak; ash; willow	On	4-7	10	Yes	150	3.0	0.5	M	Boundary group.	Good	Good	40+	B2	1.8
G22	Hawthorn; goat willow	On	3-5	5	Yes	130	3.0	1.0	EM	Ditch to the north. Historically flailed on field side.	Good	Good	40+	C2	1.6
G23	Willow	On	3-5	4	-	100	3.0	1.0	EM	Multi stemmed tree group. Ditch to the north.	Good	Good	40+	C2	1.3
G24	Goat willow; hawthorn; common ash	Off	6-8	15	Yes	250	3.0	0.0	EM	Willows growing within ditch and verge. Subsided stems.	Good	Fair	20+	C1	3.0
G25	Common ash; wych elm	Off	7-16	5	Yes	600	6.5	3.0	M	Three mature ashes with semi-mature ash and elm. No obvious ash dieback symptoms. Deadwood. Historically retrenched or reduced.	Good	Good	20+	B2	7.2

WOODLANDS

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. crown radius (m)	Av. low crown height (m)	Life stage	General observations	Health & vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)
W1	English oak; goat willow; hawthorn; blackthorn; silver birch; ash; field maple; wild cherry; elder	Off	5-15	250	-	300	3.0	1.0	SM	Semi mature planted woodland; evenly spaced trees.	Good	Good	40+	B2	3.6
W2	Ash; crack willow; hawthorn	On	8-13	150	-	600	5.0	1.0	M	Predominantly mature ash and crack willow.	Good	Good	40+	A2	7.2
W3	English oak; holly; elder	Off	4-17	250	-	670	4.0	4.0	EM	Larger oaks on edge of woodland; smaller/straighter oaks towards centre. Holly outlines the majority of the edge adjacent to highways.	Good	Good	40+	B2	8.0
W4	Common ash; English oak; wych elm; goat willow; hawthorn; elder	Off	4-18	25	Yes	450	6.0	4.5	EM	Predominantly ash with elder understorey. Two boundary ashes in southeast have coppice history. Steam running through to highway culvert.	Good	Good	40+	B2	5.4
W5	English oak; silver birch; common ash; hawthorn; holly; rowan	Off	4-22	200	Yes	650	6.0	5.0	M	Great Fox Covert. Predominantly oak and birch woodland. Verge approx 4m wide to ditch.	Good	Good	40+	A2	7.8

HEDGEROWS

Ref	Species	On/off site	Average Height (m)	Average Width (m)	Average Stem Diameter (mm)	Average Canopy Height	Life stage	General observations	Health & Vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)
H1	Hawthorn; English oak	On	4.0	2	60	0.5	M	Linear boundary hedgerow; flailed on field side maintaining distance from nearby low voltage power-line. Predominantly hawthorn; several semi-mature oak at rear of hedgerow. Ditch to the south and north.	Good	Good	40+	C2	0.8
H2	Hawthorn; blackthorn; English oak; gorse; bramble	On	2.0	1	100	0.5	M	Linear boundary hedgerow; maintained; evidence of hedge laying. Predominantly hawthorn. Ditch to the west.	Good	Good	40+	C2	1.3
H3	Hawthorn; blackthorn	On	2.0	1	50	0.5	M	Unmanaged hedgerow along field boundary; located in understorey of nearby oak.	Good	Good	20+	C2	0.6
H4	Hawthorn	On	2.0	1	50	0.5	M	Scrub-like hedgerow; located in understorey of nearby oaks.	Good	Good	20+	C2	0.6
H5	Hawthorn; bramble; gorse	On	2.0	1	60	0.5	M	Linear boundary hedgerow; maintained. Predominantly hawthorn.	Good	Good	40+	C2	0.8
H6	Hawthorn; blackthorn; English oak; gorse; bramble	On	2.0	1	100	0.5	M	Linear boundary hedgerow; maintained; evidence of hedge laying. Predominantly hawthorn. Ditch to the west.	Good	Good	40+	C2	1.3
H7	Gorse	Off	2.0	1	50	0.5	M	Incomplete hedgerow between two oaks; maintained on field side. Offsite gorse behind. Ditch to the east.	Good	Good	20+	C2	0.6
H8	Gorse; hawthorn	Off	2.0	1	50	0.5	M	Maintained hedgerow. Predominantly gorse. Ditch to the east and west.	Good	Good	20+	C2	0.6
H9	Hawthorn; bramble; fern	Off	2.0	1	50	0.5	M	Maintained hedgerow. Ditch to the east and west.	Good	Good	20+	C2	0.6
H10	Hawthorn	Off	1.5	1	50	0.5	M	Maintained hedgerow. Ditch to the east and west.	Good	Good	40+	C2	0.6
H11	Hawthorn	Off	1.5	1	50	0.5	M	Maintained hedgerow. Ditch to the east and west.	Good	Good	40+	C2	0.6
H12	Hawthorn; blackthorn; ash; holly; field maple; bramble	On	2.0	1	110	0.5	M	Linear boundary hedgerow alongside highways; maintaned. Predominantly hawthorn.	Good	Good	40+	C2	1.3
H13	Hawthorn ; blackthorn;	On	2.0	1	100	0.5	EM	Linear boundary hedgerow; historically managed. Predominantly hawthorn.	Good	Good	40+	C2	1.3
H14	Hawthorn; blackthorn; elder	On	3.0	1.5	90	0.5	EM	Linear boundary hedgerow with minimum management.	Good	Good	40+	C2	1.1
H15	Hawthorn; blackthorn	Off	2.5	1.5	80	0.5	EM	Linear boundary hedgerow; maintained. Ditch to the west and east.	Good	Good	40+	C2	1.0
H16	Hawthorn; blackthorn	Off	2.5	1.5	80	0.5	EM	Linear boundary hedgerow; maintaned. Ditch to the west.	Good	Good	40+	C2	1.0
H17	Hawthorn; blackthorn	Off	2.5	1.5	80	0.5	EM	Linear boundary hedgerow; maintained. Ditch to the west and east.	Good	Good	40+	C2	1.0
H18	Hawthorn; blackthorn	Off	2.5	1.5	80	0.5	EM	Linear boundary hedgerow; maintained. Ditch to the west and east.	Good	Good	40+	C2	1.0
H19	Hawthorn; blackthorn	Off	2.5	1.5	80	0.5	EM	Boundary hedgerow with 4 gaps between trees approximately 1m wide; maintained height and sides. Ditch to the west and east.	Good	Good	40+	C2	1.0
H20	Hawthorn; blackthorn	Off	2.5	1.5	80	0.5	EM	Linear boundary hedgerow; maintained. Hedge close to power line poles is slightly outgrown. Ditch to the west.	Good	Good	40+	C2	1.0
H21	Hawthorn; blackthorn; elder	On	2.5	1.5	90	0.5	EM	Linear boundary hedgerow with minimum management.	Good	Good	40+	C2	1.1
H22	Hawthorn; blackthorn	Off	2.5	1.5	80	0.5	EM	Linear boundary hedgerow; maintained. Ditch to the west.	Good	Good	40+	C2	1.0

Ref	Species	On/off site	Average Height (m)	Average Width (m)	Average Stem Diameter (mm)	Average Canopy Height	Life stage	General observations	Health & Vitality	Structural condition	Estimated remaining contribution (Years)	BS 5837 Category	RPA radius (m)
H23	Hawthorn; blackthorn	Off	2.5	1.5	80	0.5	EM	Linear boundary hedgerow; maintained. Ditch to the west.	Good	Good	40+	C2	1.0
H24	Hawthorn; blackthorn	Off	2.5	1.5	80	0.5	EM	Linear boundary hedgerow; maintained. Ditch to the west.	Good	Good	40+	C2	1.0
H25	Hawthorn; blackthorn; elder	On	2.5	1.5	90	0.5	EM	Linear boundary hedgerow with minimum management.	Good	Good	40+	C2	1.1
H26	Hawthorn; blackthorn; elder	On	2.5	1.5	90	0.5	EM	Linear boundary hedgerow with minimum management.	Good	Good	40+	C2	1.1
H27	Hawthorn; blackthorn; elder; oak	On	2.5	1.5	90	0.5	EM	Linear boundary hedgerow with minimum management.	Good	Good	40+	C2	1.1
H28	Hawthorn; blackthorn; elder;	On	2.0	1	90	0.5	EM	Linear boundary hedgerow with minimum management.	Good	Good	40+	C2	1.1
H29	Hawthorn; blackthorn; elder;	On	2.0	1	90	0.5	EM	Linear boundary hedgerow with minimum management.	Good	Good	40+	C2	1.1
H30	Hawthorn; blackthorn; elder; ash	On	2.0	1	90	0.5	EM	Linear boundary hedgerow with bramble and other shrub species mixed in. Minimal management.	Good	Good	40+	C2	1.1
H31	Hawthorn; elder; horse chestnut; blackthorn	On	2.0	1	90	0.5	EM	Linear boundary hedgerow with bramble and other shrub species mixed in. Minimal management.	Good	Good	40+	C2	1.1
H32	Hawthorn; fern; elder; horse chestnut	On	2.5	1.5	90	0.5	EM	Linear boundary hedgerow with bramble and other shrub species mixed in. Minimal management.	Good	Good	40+	C2	1.1
H33	Hawthorn	On	2.5	1.5	100	0.5	EM	Linear boundary hedgerow; historically managed; currently overgrown.	Good	Good	40+	C2	1.3
H34	Hawthorn; sycamore; elder	On	3.0	2	100	0.5	EM	Linear boundary hedgerow; historically managed; currently overgrown.	Good	Good	40+	C2	1.3
H35	Hawthorn	On	2.0	1	60	0.5	EM	Linear boundary hedgerow with limited species diversity.	Good	Good	40+	C2	0.8
H36	Hawthorn; oak; blackthorn	On	2.0	1.5	100	0.5	EM	Linear boundary hedgerow; historically managed; currently overgrown. Some areas grown quicker than others.	Good	Good	40+	C2	1.3

- 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 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 February 2024 (NPPF) (updated 2025) paragraph 193 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 2024 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 187: *'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 which 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 at 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. Therefore, we recommend that a further check is made with the LPA before any tree works are carried out.

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 for this report.

Trees which 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 to 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 Natural England.

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 provides an indication of 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	BS5837:2012
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 in order 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 future tree growth and orientation.

Tree constraints

Root Protection Areas:

With reference to BS5837:2012, 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”.**

BS5837:2012 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, appropriate 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 in order 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 in order 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 be needed recommended.

Recommended Buffer to development - similar to the Recommend 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 is 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 to allow them to mature.

HOW TREE DAMAGE CAN OCCUR

Above the ground

Damage can occur as a result of knocks and scuffs, breakages of branches and/or tree trunks. This is often but not always associated with machine operations, groundworks excavations, tele handlers, high sided vehicles and crane use. Other forms of above ground damage include fixings to trunk and unauthorised cutting back of branches. Wounds will harm a tree's health and shorten its life by letting in disease-causing organisms.

Below the ground

It is often not appreciated that the majority of most tree roots are generally located within the top 600mm of the ground. On this basis it needs to be understood that damage to roots can occur in three ways:

- Root severance can occur as a result of, for example, soil stripping during site clearance or excavations.
- Root dieback and death can result from compaction of the soil. Compaction can occur as a result of vehicle weight, weight of stored materials or increased pedestrian access. Compaction crushes out soil pore space and prevents tree respiration from occurring (respiration requires gas exchange between the ground and the atmosphere). Compacted soil is denser and therefore inhibits/prevents any further new root growth.
- Pollution of the soil with chemicals such as oil or cement washings can destroy the soil environment, making it inhospitable for the tree cause causing it stress.

The effects of these impacts can be disfiguring to a tree's appearance and also weaken a tree making it more liable to attack by pest and diseases. In addition, root damage or death results in corresponding decline above the ground with dieback occurring within the tree crown.

The effects of damage to trees generally take some time to become fully apparent. In many cases, damaged trees decline slowly after the completion of a new development, until they eventually need to be removed due to ill health.

Tree protection barriers and load distributing 'no-dig' paths are specified in order to prevent soil compaction from taking place.

GENERAL SITE RULES FOR TREE PROTECTION

Do not independently carry out any activity that is at odds with the site scheme of tree protection. This is contained within an approved Arboricultural Method Statement (AMS) and accompanying Tree Protection Plan.

In simple terms: do not carry out any work within any Construction Exclusion Zone (CEZ) without prior liaison with the Project Arboriculturist and written authorisation from the Local Planning Authority.

Within the CEZ:

- No mixing of cement
- No soil/turf stripping, raising/lowering of ground levels (unless advised), deposit or excavation of soil or rubble
- No excavations for services or installation of services
- No storage of materials, machinery fuel, chemicals or other materials of any other description
- No parking/use of tracked or wheeled machinery
- No siting of temporary structures including hard standing areas, portaloos, site huts
- No lighting of fires or disposal of liquids
- Fires on site should be avoided if possible. Where they are unavoidable, they must not be lit in a position where heat could damage foliage or branches. Fires must be a minimum of 20m from the trunk of any retained tree or the centre line of any hedgerow to be retained
- No signs, cables, fixtures or fittings of any other description shall be attached to any part of a retained tree.