



ARBORICULTURAL CONSTRAINTS ASSESSMENT

MIRA – The Elms Farm, Caldecote

-prepared on behalf of Terra Firma Landscape Consultancy –

The Granary, White Chimney Row, Westbourne PO10 8RS

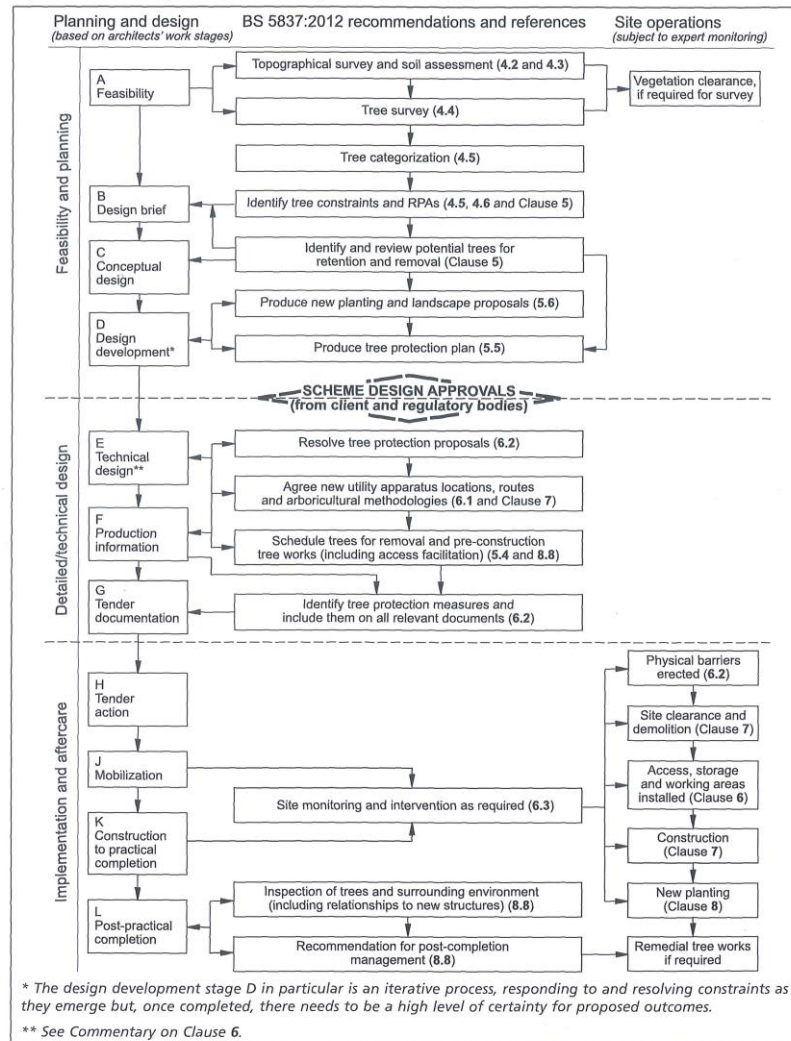
mob: 07875 520881 - email: bernieharverson@gmail.com - VAT Reg No 881 5056 16



Tree Survey Schedule

+ T/S Notes & BS5837 Flow Diagram

Figure 1 The design and construction process and tree care



TREE SURVEY NOTES

These Tree Survey Notes have been prepared in accordance with the recommendations of **British Standard 5837:2012** and they define the criteria for pre –development tree surveys.

- Each tree/group/hedge/shelterbelt/woodland has been allocated a unique number (**No.**), where specifically requested and appropriate fees are agreed small durable numbered metal tags can be applied to each tree/group surveyed.
- The tree species (**Species**) is provided in both English and Latin name formats.
- Height assessments (**Ht**) are estimated in metres. This will be adequate for the majority of cases, but where accurate heights become a critical issue it may be necessary to return to site, as a separately commissioned exercise, to collect accurate measurements with the aid of optical instruments.
- Trunk/stem diameters (**Diam**) are measured in millimetres at 1.5m above ground level – where the tree is inaccessible the diameter is estimated as indicated by suffix #
- Radial crown spread assessments (**Brch Sprd**) are estimated in metres from the centre of the trunk/group to each of the four primary points of the compass (**N**-north; **E**-east; **S**-south and **W**-west) in order to achieve a representation of the crown shape which will be shown on the accompanying tree survey plan. These provide a general guide as to the main bulk outline of a tree/groups crown but are not tape measured dimensions. These would only be undertaken as part of a separately commissioned exercise, where precise dimensions are critical to the project at hand.
- Both the canopy ground clearance (**GC**) and the height & compass direction of the lowest major branch (**LMB**) are estimated and shown in metres
- An assessment of a tree/groups 'life stage' (**LS**) is made in terms of its site specific maturity as part of the surrounding landscape, taking into account its overall shape and form in that setting, and is recorded thus :-
Y - Young tree/group; **SM** - Semi-Mature tree/group; **EM** - Early-Mature tree/group;
M – Mature tree/group; **OM** - Over – mature tree/group
- Data on the structural condition (**Condition Comments**) of the tree/group is provided to give its visual appearance and any significant health and safety issues.
- Details of any recommended tree works required at the time of survey is given under the heading – **Preliminary Management Recommendations**.
- An estimate of a tree/groups remaining contribution in years (**RC**) is made and is recorded thus :-
0-5; 5-10; 10-20; 20-30; 30-40 or **>40** years.
- The category grading (**Cat**) for each tree/group is assessed according to the criteria provided within **BS5837:2012**. The assessment is made of the tree/group in its current condition and within the environment encountered bearing in mind its suitability for retention as part of any future proposed

development; although the exact layout detail of any specific scheme will not be known at the time of surveying. The trees have been classified into one of four categories and colour coded as BS5837 recommends :- **U** (dark red); **A** (light green); **B** (mid-blue) and **C** (grey). Please note that suffixed numerical sub-categories are also applied for guidance only and do not carry any cumulative or increased value for the tree/group. This colour coding scheme will be applied to all drawings provided.

Table 1 – Cascade chart for tree quality assessment

Category and definition	Criteria			Colour on plan
Trees unsuitable for retention				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.	- Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (i.e. where, for whatever reason the loss of companion shelter cannot be mitigated by pruning) - Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline - Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve.			Dark Red
Trees to be considered for retention				
	Criteria – Subcategories			
	1	2	3	
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual, or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and /or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	Light Green
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in the category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	Mid Blue
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value, and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	Grey



TREE SURVEY SCHEDULE

Client : Terra Firma Landscape Consultancy **Site Location :** MIRA – The Elms Farm, Caldecote

Surveyor : Bernie Harverson

Date Surveyed : 2nd & 3rd August 2021

Tree No.	Species	Ht m	Diam mm	Brch Sprd m	GC m	LS	Comments	Preliminary Management Recommendations	Rem Con yrs	Cat
1	Field Maple <i>Acer campestre</i>	8	450 #	N 4 E 4 S 4 W4	0	M	Unable to access due to dense vegetation-ivy smothering base, trunk and through crown-small diameter deadwood-dead top	Sever ivy as it smothers the tree-minor dieback	20-30	C1
2	Field Maple <i>Acer campestre</i>	9	300 300 #	N 5 E 5 S 5 W5	0	M	Unable to access due to dense vegetation-ivy smothering base, trunk and through crown-bifurcated at ground level	No work considered essential at time of survey	>40	B1
3	Pedunculate Oak <i>Quercus robur</i>	9	380 300	N 8 E 8 S - W6	4	SM	Ivy smothering base-bifurcated at ground level-cables through lower crown	Clear route of cables	>40	A1
Hedge 1	Blackthorn (<i>Prunus</i>) Apple (<i>Malus</i>) Wild Rose (<i>Rosa</i>) Elderberry (<i>Sambucus</i>) Hazel (<i>Corylus</i>) Field Maple (<i>Acer</i>)	3 to 6	Av 150	N 1.5 E - S - W-	0	M	Die back throughout-flat pruned with a flail on field side adjacent to the farm track-ragged and sparse in places-cables through upper crown	Clear route of cables	>40	B2
4	Hawthorn <i>Crataegus monogyna</i>	7	380	N 4 E 3 S - W4	4	M	Ivy smothering base, trunk and through crown-flat pruned with a flail on the field side adjacent to the farm track-cables through lower crown	Sever ivy as it is smothering the tree-clear route of cables	20-30	C1
5	Hawthorn <i>Crataegus monogyna</i>	8	370 360	N 6 E 5 S - W5	4	M	Ivy smothering base, trunk and through crown-bifurcated at ground level-cables through lower crown-flat pruned with a flail on the field side adjacent to the farm track	Sever Ivy which is smothering the tree-clear route of cables	>40	B1
6	Hawthorn <i>Crataegus monogyna</i>	5	370 150	N 3 E 3 S - W3	4	M	Ivy smothering base, trunk and through crown-bifurcated at ground level significant dieback-dead top –poor quality tree-flat pruned with a flail on the field side adjacent to the farm track-cables through lower crown	Clear route of cables	<10	U
7	Hawthorn <i>Crataegus monogyna</i>	5	150 x 4 100 x 3	N 3 E 4 S - W5	1	M	Multi stemmed at ground level-flat pruned with a flail on the field side adjacent to the farm tracks-cables through upper crown	Clear route of cables	10-20	C1

8	Hawthorn <i>Crataegus monogyna</i>	5	300 150 150	N 1.5 E 4 S – W4	1	M	Ivy smothering base, trunk and crown-multi stemmed at ground level - flat pruned with a flail on the field side adjacent to the farm tracks-cables through upper crown	Sever Ivy which is smothering tree-clear route of cables	20-30	C1
9	Common Ash <i>Fraxinus excelsior</i>	15	800	N 10 E 9 S – W7	3	M	Significant buttress rooting-internally along bank-cavities on west side and woodpecker holes-Owl and other birds and Bat boxes attached to trunk-bifurcated 3m above ground level- decay and cavities in old pruning wounds-decomposed fungal brackets around base of tree-small diameter deadwood throughout-major deadwood and stubs-has recently shed a long limb from north side of tree has history of branch shedding-pigeon browsing damage	Remove deadwood and stubs above farm track for safety reasons	30-40	B1
10	Pedunculate Oak <i>Quercus robur</i>	17	850	N 5 E 5 S – W9	3	M	Ivy smothering base, trunk and through crown-low crown density in upper reaches-small diameter deadwood-major deadwood and stubs-cables through lower crown and has been high crown lifted in the past and pruned back from cables	No work considered essential at time of survey	>40	B1
Group 1	Pedunculate Oaks x 5 (<i>Quercus</i>) Common Ash x 1 (<i>Fraxinus</i>)	18	620 to 940 500	N 9 E - S - W-	2	M	Ivy smothering base, trunk and through crowns- crown shape dictated by group pressure-merged crowns-small and large diameter deadwood-low branching habit-cables through lower crown-Bird and Bat boxes secured to trunks	Clear route of cables	>40	A2
Group 2	Pedunculate Oaks x 4 (<i>Quercus</i>)	16	420 to 600	N 9 E - S - W-	2	M	Crown shape dictated by group pressure-merged crowns –small and large diameter deadwood-cables through lower crowns-trees are atop a soil bank and there is erosion of soil under buttress rooting on east sides	Clear route of cables	>40	C2
11	Pedunculate Oak <i>Quercus robur</i>	16	830	N - E - S - W8	3	M	Small diameter deadwood throughout-major deadwood-some storm damage-cables through lower crown	No work considered essential at time of survey	>40	A1
Group 3	Pedunculate Oaks x 5 (<i>Quercus</i>) Common Ash x 1 (<i>Fraxinus</i>)	11 to 16	470 to 920	N 8 E - S - W-	3	M	Crown shape dictated by group pressure-merged crowns-small and large diameter deadwood-Bird and Bat boxes secured to trunks and main branches in places	No work considered essential at time of survey	>40	A2
Group 4	Pedunculate Oaks x 4 (<i>Quercus</i>)	18	620 to 950	N 10 E - S - W-	4	M	Ivy smothering base, trunks and through crowns-small and large diameter deadwood -Bird and Bat boxes secured to branches-one dominant tree and three subsidiary trees growing out from under its canopy	No work considered essential at time of survey	>40	A2
12	Pedunculate Oak <i>Quercus robur</i>	18	1000	N 8 E 8 S - W8	3	M	Small and large diameter deadwood-Bird and Bat boxes secured to branches	No work considered essential at time of survey	>40	A1

13	Pedunculate Oak <i>Quercus robur</i>	16	840	N 8 E 5 S – W9	3	M	Decay and cavities in old pruning wounds on north side-small and large diameter deadwood-Bird and Bat boxes secured to branches	No work considered essential at time of survey	>40	B1
14	Pedunculate Oak <i>Quercus robur</i>	15	760	N 6 E 6 S – W4	3	M	Ivy smothering -small and large diameter deadwood	No work considered essential at time of survey	>40	B1
15	Pedunculate Oak <i>Quercus robur</i>	15	660	N 8 E 5 S – W5	3	M	Small and large diameter deadwood	No work considered essential at time of survey	>40	A1
16	Pedunculate Oak <i>Quercus robur</i>	15	680	N 11 E 8 S – W7	3	M	Small and large diameter deadwood	No work considered essential at time of survey	>40	A1
17	Pedunculate Oak <i>Quercus robur</i>	13	910	N 11 E 9 S – W9	3	M	Small and large diameter deadwood	No work considered essential at time of survey	>40	A1
18	Pedunculate Oak <i>Quercus robur</i>	15	830	N 9 E 8 S – W8	3	M	Small and large diameter deadwood-bird and Bat boxes secured to trunk and main branches in places	No work considered essential at time of survey	>40	A1
19	Horse Chestnut <i>Aesculus hippocastanum</i>	14	580	N 4 E 6 S – W6	0	M	Has shed a major limb from the west side leaving large open decaying wounds to a height of 4m above ground level-low branching habit with no signs of Bleeding Canker or Leaf Miner infection-Bird and Bat boxes attached to branches	No work considered essential at time of survey	20-30	C1
20	Pedunculate Oak <i>Quercus robur</i>	12	850	N 6 E 5 S – W6	3	M	Storm damaged with broken branches and hangers	No work considered essential at time of survey	>40	C1
Shelter belt 1	Pedunculate Oaks (<i>Quercus</i>) Common Ash (<i>Fraxinus</i>)	Av 12	Av 300 x 4 av 200 x 5	N 6 E - S - W-	4	SM to EM	Ivy smothering base and trunk-mostly multi stemmed at ground level-fair shape and form-growing at the sides of the old railway embankment	No work considered essential at time of survey	>40	B2
Pond 1 [Dry]	Crack Willows x 4 <i>Salix fragilis</i>	8	Av 600 300 300	N - E - S - W-	0	M	Multi stemmed at ground level-all have collapsed and fallen but continue to grow on reverting back to the vertical with adequate root contact with the ground around to achieve this-significant habitat value with splits-hollows and cavities in all trees	No work considered essential at time of survey	30-40	B2
Pond 2 [Wet]	Hawthorns (<i>Crataegus</i>) Grey Willows (<i>Salix</i>) Bullrushes	4	Av 180 x 5	N - E - S - W-	0	M	Mostly multi stemmed-corrugated iron sheds and metal tanks and old fridges dumped on eastern side-holding water in central area-habitat value collectively even though individual trees are not of high quality	No work considered essential at time of survey	30-40	B2

Hedge 2	Field Maple (<i>Acer</i>) Hawthorn (<i>Crataegus</i>) Blackthorn (<i>Prunus</i>)	2.5 to 3	Av 100	N 1.5 E – S 1.5 W-	0	EM	Previously flail maintained but has not been cut for a while-water holding drainage ditch on east side-plants are arranged in blocks of a single species-there are gaps in the hedge line for tractor access	No work considered essential at time of survey	>40	A2
Hedge 3	Hawthorn <i>Crataegus monogyna</i>	2	35 to 40	N – E 0.5 S – W0.5	0	Y	Young developing hedge line-rabbit guard tubes still in situ	No work considered essential at time of survey	>40	A2
Hedge 4	Field Maple (<i>Acer</i>) Hawthorn (<i>Crataegus</i>) Blackthorn (<i>Prunus</i>)	3	Av 150 x 4	N – E 1 S – W1	0	M	Previously flail maintained but has not been cut for a while—double row in eastern third which dwindles down to a single row	No work considered essential at time of survey	>40	A2
21	Pedunculate Oak <i>Quercus robur</i>	8	640	N 6 E 6 S 6 W6	1	EM	Small and large diameter deadwood-decay and cavities at ground level-stunted form to crown –has shed the top at 3m above ground level and an open cavity and significant hollowing and decay is evident-has since been pruned down for safety reasons	No work considered essential at time of survey	30-40	C1
Hedge 5	Hawthorn <i>Crataegus monogyna</i>	3.5	Av 150	N – E 1.5 S – W1	0	M	Previously flail maintained but has not been cut for a while	No work considered essential at time of survey	>40	A2
Hedge 6	Hawthorn (<i>Crataegus</i>) Blackthorn (<i>Prunus</i>) Elm (<i>Ulmus</i>)	2.5	40 x 6	N 2 E – S 2 W-	0	SM to EM	Multi stemmed at ground level-double row planting-block planting of a single species	No work considered essential at time of survey	>40	A2
Group 5	Grey Poplar (<i>Populus</i>) Larch (<i>Larix</i>) Walnut (<i>Juglans</i>) Cherry Plum (<i>Prunus</i>) Turkey Oak (<i>Quercus</i>)	12	Av 250	N 3 E 3 S 3 W3	2	SM	Off site trees	Not under clients control	>40	B2
Hedge 7	Hawthorn <i>Crataegus monogyna</i>	2	Av 50 x 5	N – E 1.5 S – W1.5	0	EM	Mostly multi stemmed-professionally cut flail maintained hedge line-double row planting	No work considered essential at time of survey	>40	A2
22	Pedunculate Oak <i>Quercus robur</i>	15	820	N 7 E 7 S 7 W7	5	M	Ivy smothering base, trunk and through crown damaging the tarmac footpath-good shape and form	No work considered essential at time of survey	>40	A1
Group 6	Field Maple (<i>Acer</i>) Blackthorn (<i>Prunus</i>) Hazel (<i>Corylus</i>)	4 to 8	100 x 10	N 3 E 3 S 3 W3	0	EM to M	Loose hedge line of mixed species-some mature plants in clumps and then some individual Field Maples	No work considered essential at time of survey	30-40	B2

23	Common Ash <i>Fraxinus excelsior</i>	15	550	N 5 E 4 S 7 W7	2	M	Small and large diameter deadwood-decay and cavities in old pruning wounds-severe Pigeon browsing damage-poor quality tree	No work considered essential at time of survey	10-20	C1
24	Common Ash <i>Fraxinus excelsior</i>	9	600	N 5 E 5 S 5 W5	2	M	Small and large diameter deadwood-decay and cavities in old pruning wounds-top has been shed in storms-good habitat tree	No work considered essential at time of survey	<10	U
25	Common Ash <i>Fraxinus excelsior</i>	10	700 #	N 6 E 6 S 6 W6	2	M	Unable to access due to dense vegetation-ivy smothering base, trunk and through crown and dominating tree-significant dieback-small diameter deadwood throughout-significant pigeon browsing damage-dead top-poor quality tree	No work considered essential at time of survey	<10	U
26	Common Ash <i>Fraxinus excelsior</i>	14	400 x 3 #	N 7 E 9 S 7 W7	2	M	Unable to access due to dense vegetation-multi stemmed at ground level-dieback-small diameter deadwood throughout-poor quality tree	No work considered essential at time of survey	10-20	C1
Hedge 8	Field Maple (<i>Acer</i>) Blackthorn (<i>Prunus</i>) Hawthorn (<i>Crataegus</i>) Guelder Rose (<i>Viburnum</i>)	2.5	Av 150	N 2 E 2 S 2 W2	0	M	Double row planting in batches of single species-previously flail maintained but has not been cut for a while	No work considered essential at time of survey	>40	A2
Hedge 9	Field Maple (<i>Acer</i>) Blackthorn (<i>Prunus</i>) Hawthorn (<i>Crataegus</i>)	2.5	Av 150	N 2 E 2 S 2 W2	0	M	Double row planting in batches of single species-previously flail maintained but has not been cut for a while	No work considered essential at time of survey	>40	A2
27	Common Ash <i>Fraxinus excelsior</i>	8	200 x 3	N 4 E 4 S 4 W4	3	SM	Multi stemmed at ground level	No work considered essential at time of survey	>40	C1
Group 7	Wych Elms (<i>Ulmus glabra</i>) & English Elms (<i>Ulmus procera</i>)	15	300 to 500	N 7 E 7 S 7 W7	2	SM to EM	Causing significant damage to tarmac path	No work considered essential at time of survey	10-20	C2
Hedge 10	Hawthorn <i>Crataegus monogyna</i>	3	Av 150	N – E 2 S – W2	0	M	Double row planting in batches of single species-previously flail maintained but has not been cut for a while	No work considered essential at time of survey	>40	A2
Hedge 11	Hawthorn <i>Crataegus monogyna</i>	3 to 5	Av 150	N – E 2 S – W2	0	M	Double row of plants-previously flail maintained but has not been cut for a while-western section from “Trees House” to telegraph pole is taller and less formal- as is another section towards the house	No work considered essential at time of survey	>40	A2



Root Protection Area Schedule

+ BS5837 RPA Calculation Methodology

4.6 Root Protection Area (RPA)

4.6.1 For single stem trees, the RPA should be calculated as an area equivalent to a circle with a radius 12 times the stem diameter measured at a height of 1.5m from ground level. For trees with more than one stem, one of two calculation methods should be used as illustrated and explained below.

a) For trees with 2 to 5 stems, the combined stem diameter should be calculated as follows:

$$\sqrt{(\text{stem diameter } 1)^2 + (\text{stem diameter } 2)^2 \dots \text{up to } + (\text{stem diameter } 5)^2}$$

In words - measure the diameter of each of the stems – square each one and add it to the next - finally assess the square root of the combined total to derive one measurement which you look up in Table D.1 to find the radial RPA and area measurement equivalent to the area of a circle with that radius - in case you have to apply a polygon protection zone [see at 4.6.2 below].

The calculated RPA for each tree is to be capped at 707 m²

b) For trees with more than five stems the combined stem diameter should be calculated as follows:

$$\sqrt{(\text{mean stem diameter})^2 \times \text{the total number of stems}}$$

In words – measure all of the stem diameters – add them all together and divide by the total number of stems (= mean stem diameter) – then square this figure – then multiply that figure by the total number of stems and then finally assess the square root of that figure to derive one measurement which you look up in Table D.1 to find the radial RPA and area measurement equivalent to the area of a circle with that radius - in case you have to apply a polygon protection zone [see at 4.6.2 below].

4.6.2 The RPA for each tree should initially be plotted as a circle centred on the accurate position of the trunk of the tree. Where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area to the circle should be plotted instead of the circle. Modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution.

4.6.3 Any deviation in the RPA from the original circular plot should take account of the following factors whilst still providing adequate protection for the root system:

- the morphology and disposition of the roots, when influenced by past or existing site conditions (e.g. the presence of roads, structures and underground apparatus);
- topography and drainage;
- the soil type and structure;
- the likely tolerance of the tree to root disturbance or damage, based on factors such as species, age, condition and past management.

Root Protection Area – Table D1

The RPA's given in Table D.1 should be used for single stem trees and the equivalent resultant combined stem diameter for multi-stemmed trees

Stem Diam. mm	Circle Rad. m	Area m ²	Stem Diam. mm	Circle Rad. m	Area m ²	Stem Diam. mm	Circle Rad. m	Area m ²	Stem Diam. mm	Circle Rad. m	Area m ²	Stem Diam. mm	Circle Rad. m	Area m ²
75	0.9	3	310	3.7	43	545	6.5	134	780	9.4	275	1015	12.2	466
80	1.0	3	315	3.8	45	550	6.6	137	785	9.4	279	1020	12.2	471
85	1.0	3	320	3.8	46	555	6.7	139	790	9.5	282	1025	12.3	475
90	1.1	4	325	3.9	48	560	6.7	142	795	9.5	286	1030	12.4	480
95	1.1	4	330	4.0	49	565	6.8	144	800	9.6	290	1035	12.4	485
100	1.2	5	335	4.0	51	570	6.8	147	805	9.7	293	1040	12.5	490
105	1.3	5	340	4.1	52	575	6.9	150	810	9.7	297	1045	12.5	494
110	1.3	5	345	4.1	54	580	7.0	152	815	9.8	301	1050	12.6	499
115	1.4	6	350	4.2	55	585	7.0	155	820	9.8	304	1055	12.7	504
120	1.4	7	355	4.3	57	590	7.1	157	825	9.9	308	1060	12.7	508
125	1.5	7	360	4.3	59	595	7.1	160	830	10.0	312	1065	12.8	513
130	1.6	8	365	4.4	60	600	7.2	163	835	10.0	315	1070	12.8	518
135	1.6	8	370	4.4	62	605	7.3	166	840	10.1	319	1075	12.9	523
140	1.7	9	375	4.5	64	610	7.3	168	845	10.1	323	1080	13.0	528
145	1.7	10	380	4.6	65	615	7.4	171	850	10.2	327	1085	13.0	533
150	1.8	10	385	4.6	67	620	7.4	174	855	10.3	331	1090	13.1	538
155	1.9	11	390	4.7	69	625	7.5	177	860	10.3	335	1095	13.1	542
160	1.9	12	395	4.7	71	630	7.6	180	865	10.4	339	1100	13.2	547
165	2.0	12	400	4.8	72	635	7.6	182	870	10.4	342	1105	13.3	552
170	2.0	13	405	4.9	74	640	7.7	185	875	10.5	346	1110	13.3	557
175	2.1	14	410	4.9	76	645	7.7	188	880	10.6	350	1115	13.4	562
180	2.2	15	415	5.0	78	650	7.8	191	885	10.6	354	1120	13.4	568
185	2.2	16	420	5.0	80	655	7.9	194	890	10.7	358	1125	13.5	573
190	2.3	16	425	5.1	82	660	7.9	197	895	10.7	362	1130	13.6	578
195	2.3	17	430	5.2	84	665	8.0	200	900	10.8	366	1135	13.6	583
200	2.4	18	435	5.2	86	670	8.0	203	905	10.9	371	1140	13.7	588
205	2.5	19	440	5.3	88	675	8.1	206	910	10.9	375	1145	13.7	593
210	2.5	20	445	5.3	90	680	8.2	209	915	11.0	379	1150	13.8	598
215	2.6	21	450	5.4	92	685	8.2	212	920	11.0	383	1155	13.9	604
220	2.6	22	455	5.5	94	690	8.3	215	925	11.1	387	1160	13.9	609
225	2.7	23	460	5.5	96	695	8.3	219	930	11.2	391	1165	14.0	614
230	2.8	24	465	5.6	98	700	8.4	222	935	11.2	396	1170	14.0	619
235	2.8	25	470	5.6	100	705	8.5	225	940	11.3	400	1175	14.1	625
240	2.9	26	475	5.7	102	710	8.5	228	945	11.3	404	1180	14.2	630
245	2.9	27	480	5.8	104	715	8.6	231	950	11.4	408	1185	14.2	635
250	3.0	28	485	5.8	106	720	8.6	235	955	11.5	413	1190	14.3	641
255	3.1	29	490	5.9	109	725	8.7	238	960	11.5	417	1195	14.3	646
260	3.1	31	495	5.9	111	730	8.8	241	965	11.6	421	1200	14.4	652
265	3.2	32	500	6.0	113	735	8.8	244	970	11.6	426	1205	14.5	657
270	3.2	33	505	6.1	115	740	8.9	248	975	11.7	430	1210	14.5	662
275	3.3	34	510	6.1	118	745	9.0	251	980	11.8	435	1215	14.6	668
280	3.4	35	515	6.2	120	750	9.0	255	985	11.8	439	1220	14.6	673
285	3.4	37	520	6.2	122	755	9.1	258	990	11.9	443	1225	14.7	679
290	3.5	38	525	6.3	125	760	9.1	261	995	11.9	448	1230	14.8	685
295	3.5	39	530	6.4	127	765	9.2	265	1000	12.0	452	1235	14.8	690
300	3.6	41	535	6.4	130	770	9.2	268	1005	12.1	457	1240	14.9	696
305	3.7	42	540	6.5	132	775	9.3	272	1010	12.1	462	1245	14.9	701
												1250	15.0	707



ROOT PROTECTION AREA SCHEDULE

Client : Terra Firma Landscape Consultancy

Site Location : MIRA – The Elms Farm, Caldecote

Tree No.	Tree Species	Cat	Diam mm	BS5837:2012 Table1 Radial Protection Zone m	BS5837:2012 Table D1 Polygon Area m ²	Is An Offset Required To Cater For Existing Rooting Pattern Restrictions
1	Field Maple <i>Acer campestre</i>	C1	450 #	5.4	92	NO-fairly free rooting to all directions
2	Field Maple <i>Acer campestre</i>	B1	300 300 #	5.1	81	NO-fairly free rooting to all directions
3	Pedunculate Oak <i>Quercus robur</i>	A1	380 300	5.8	106	NO-fairly free rooting to all directions
Hedge 1	Blackthorn (<i>Prunus</i>) Apple (<i>Malus</i>) Wild Rose (<i>Rosa</i>) Elderberry (<i>Sambucus</i>) Hazel (<i>Corylus</i>) Field Maple (<i>Acer</i>)	B2	Av 150	1.8	10	NO-fairly free rooting to all directions
4	Hawthorn <i>Crataegus monogyna</i>	C1	380	4.6	65	NO-fairly free rooting to all directions
5	Hawthorn <i>Crataegus monogyna</i>	B1	370 360	6.2	121	NO-fairly free rooting to all directions
6	Hawthorn <i>Crataegus monogyna</i>	U	370 150	4.8	72	NO-fairly free rooting to all directions
7	Hawthorn <i>Crataegus monogyna</i>	C1	150 x 4 100 x 3	4.1	53	NO-fairly free rooting to all directions
8	Hawthorn <i>Crataegus monogyna</i>	C1	300 150 150	4.4	61	NO-fairly free rooting to all directions
9	Common Ash <i>Fraxinus excelsior</i>	B1	800	9.6	290	NO-fairly free rooting to all directions
10	Pedunculate Oak <i>Quercus robur</i>	B1	850	10.2	327	NO-fairly free rooting to all directions

Group 1	Pedunculate Oaks x 5 (<i>Quercus</i>)	A2	620 to 940	7.4 11.3	174 400	NO-fairly free rooting to all directions
	Common Ash x 1 (<i>Fraxinus</i>)		500	6.0	113	
Group 2	Pedunculate Oaks x 4 (<i>Quercus</i>)	C2	420 to 600	5.0 7.2	80 163	NO-fairly free rooting to all directions
11	Pedunculate Oak <i>Quercus robur</i>	A1	830	10.0	312	NO-fairly free rooting to all directions
Group 3	Pedunculate Oaks x 5 (<i>Quercus</i>) Common Ash x 1 (<i>Fraxinus</i>)	A2	470 to 920	5.6 11.0	100 383	NO-fairly free rooting to all directions
Group 4	Pedunculate Oaks x 4 (<i>Quercus</i>)	A2	620 to 950	7.2 11.1	174 408	NO-fairly free rooting to all directions
12	Pedunculate Oak <i>Quercus robur</i>	A1	1000	12.0	452	NO-fairly free rooting to all directions
13	Pedunculate Oak <i>Quercus robur</i>	B1	840	10.1	319	NO-fairly free rooting to all directions
14	Pedunculate Oak <i>Quercus robur</i>	B1	760	9.1	261	NO-fairly free rooting to all directions
15	Pedunculate Oak <i>Quercus robur</i>	A1	660	7.9	197	NO-fairly free rooting to all directions
16	Pedunculate Oak <i>Quercus robur</i>	A1	680	8.2	209	NO-fairly free rooting to all directions
17	Pedunculate Oak <i>Quercus robur</i>	A1	910	10.9	375	NO-fairly free rooting to all directions
18	Pedunculate Oak <i>Quercus robur</i>	A1	830	10.0	312	NO-fairly free rooting to all directions
19	Horse Chestnut <i>Aesculus hippocastanum</i>	C1	580	7.0	152	NO-fairly free rooting to all directions

20	Pedunculate Oak <i>Quercus robur</i>	C1	850	10.2	327	NO-fairly free rooting to all directions
Shelter belt 1	Pedunculate Oaks (<i>Quercus</i>)	B2	Av 300 x 4	7.2	163	NO-fairly free rooting to all directions
	Common Ash (<i>Fraxinus</i>)		av 200 x 5	5.4	90	
Pond 1 [Dry]	Crack Willows x 4 <i>Salix fragilis</i>	B2	Av 600 300 300	8.8	244	NO-free rooting to all directions
Pond 2 [Wet]	Hawthorns (<i>Crataegus</i>) Grey Willows (<i>Salix</i>) Bullrushes	B2	Av 180 x 5	4.8	73	NO-free rooting to all directions
Hedge 2	Field Maple (<i>Acer</i>) Hawthorn (<i>Crataegus</i>) Blackthorn (<i>Prunus</i>)	A2	Av 100	1.2	5	NO-fairly free rooting to all directions
Hedge 3	Hawthorn <i>Crataegus monogyna</i>	A2	35 to 40	0.4	1	NO-fairly free rooting to all directions
				0.5	1	
Hedge 4	Field Maple (<i>Acer</i>) Hawthorn (<i>Crataegus</i>) Blackthorn (<i>Prunus</i>)	A2	Av 150 x 4	4.3	59	NO-fairly free rooting to all directions
21	Pedunculate Oak <i>Quercus robur</i>	C1	640	7.7	185	NO-fairly free rooting to all directions
Hedge 5	Hawthorn <i>Crataegus monogyna</i>	A2	Av 150	1.8	10	NO-fairly free rooting to all directions
Hedge 6	Hawthorn (<i>Crataegus</i>) Blackthorn (<i>Prunus</i>) Elm (<i>Ulmus</i>)	A2	40 x 6	1.2	4	NO-fairly free rooting to all directions
Group 5	Grey Poplar (<i>Populus</i>) Larch (<i>Larix</i>) Walnut (<i>Juglans</i>) Cherry Plum (<i>Prunus</i>) Turkey Oak (<i>Quercus</i>)	B2	Av 250	3.0	28	NO-fairly free rooting to all directions
Hedge 7	Hawthorn <i>Crataegus monogyna</i>	A2	Av 50 x 5	1.3	6	NO-fairly free rooting to all directions
22	Pedunculate Oak <i>Quercus robur</i>	A1	820	9.8	304	NO-fairly free rooting to all directions

Group 6	Field Maple (<i>Acer</i>) Blackthorn (<i>Prunus</i>) Hazel (<i>Corylus</i>)	B2	100 x 10	3.8	45	NO-fairly free rooting to all directions
23	Common Ash <i>Fraxinus excelsior</i>	C1	550	6.6	137	NO-fairly free rooting to all directions
24	Common Ash <i>Fraxinus excelsior</i>	U	600	7.2	163	NO-fairly free rooting to all directions
25	Common Ash <i>Fraxinus excelsior</i>	U	700 #	8.4	222	NO-fairly free rooting to all directions
26	Common Ash <i>Fraxinus excelsior</i>	C1	400 x 3 #	8.3	217	NO-fairly free rooting to all directions
Hedge 8	Field Maple (<i>Acer</i>) Blackthorn (<i>Prunus</i>) Hawthorn (<i>Crataegus</i>) Guelder Rose (<i>Viburnum</i>)	A2	Av 150	1.8	10	NO-fairly free rooting to all directions
Hedge 9	Field Maple (<i>Acer</i>) Blackthorn (<i>Prunus</i>) Hawthorn (<i>Crataegus</i>)	A2	Av 150	1.8	10	NO-fairly free rooting to all directions
27	Common Ash <i>Fraxinus excelsior</i>	C1	200 x 3	4.2	54	NO-fairly free rooting to all directions
Group 7	Wych Elms (<i>Ulmus glabra</i>) & English Elms (<i>Ulmus procera</i>)	C2	300 to 500	3.6 6.0	41 113	NO-fairly free rooting to all directions
Hedge 10	Hawthorn <i>Crataegus monogyna</i>	A2	Av 150	1.8	10	NO-fairly free rooting to all directions
Hedge 11	Hawthorn <i>Crataegus monogyna</i>	A2	Av 150	1.8	10	NO-fairly free rooting to all directions



Tree Constraints Plan



Qualifications & Experience



QUALIFICATIONS AND EXPERIENCE

- My name is Bernie Harverson and I am a self employed independent arboricultural consultant in private practice. I take instructions primarily in the South of England but also on occasions work nationwide and abroad and have an office at : –

The Granary, White Chimney Row, Westbourne PO10 8RS

- I hold the following arboricultural qualification – **National Diploma in Arboriculture** (Royal Forestry Society – 1976)
- I have **fifty (50)** years of practical and managerial experience in the arboricultural industry including periods in both the public and private sectors.
- My Local Government sector experience comprises one year as a tree surgeon with Brighton Parks and nine years spent in Arboricultural Officer posts with both Westminster City Council and Portsmouth City Council
- My past practical experience in the private sector includes two years at Tilhill Forest Nursery and over ten years for various companies as a Climbing Arborist/Tree Surgeon.
- Managerial work in the private sector includes two years as manager of Beechings Tree Surgeons and twelve years with the CBA Tree Consultancy Practice as Managing Director and Senior Arboricultural Consultant.
- As an independent self employed Arboricultural Consultant [since 2005] I now provide a comprehensive range of services including :- tree surveys, appraisals, assessments and inspections with particular reference to planning and development and tree safety audits with a service offered as a climber to undertake full climbing inspections to better understand the condition of a given tree before prescribing a management strategy.
- I also undertake litigation work appearing as an Expert Witness in Court Actions and at Planning Appeals, Hearings and Local Inquiries.

The Granary, White Chimney Row, Westbourne PO10 8RS

mob: 07875 520881 - email: bernieharverson@gmail.com - VAT Reg No 881 5056 16