



ARBORICULTURAL ASSESSMENT

Waterlooville Leisure Centre, Waterberry Drive, Waterlooville

*-prepared on behalf of **Horizon Leisure Centres** –*

*- **December 2012** -*

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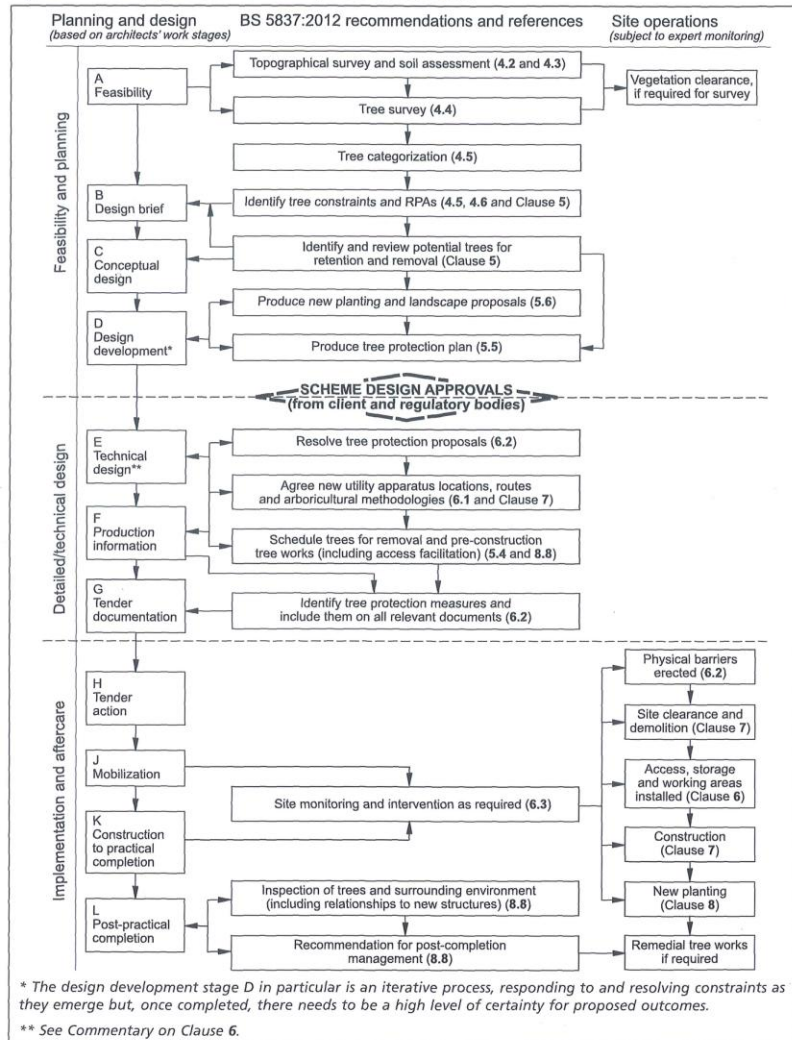
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Tree Survey Schedule

+ 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



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TREE SURVEY SCHEDULE

Client : Horizon Leisure Centres

Site Location : Waterloo Leisure Centre, Waterberry Drive, Waterloo

Surveyor : Bernie Harverson *M.Arb.* **Date Surveyed :** 10th December 2012

Tree No.	Species	Ht m	Diam mm	Brch Sprd m	GC m	LMB m	LS	Condition Comments	Preliminary Management Recommendations	Rem Con yrs	Cat
Grp 1	Silver Birch <i>Betula pendula</i> x 2 of	10 to 11	200	N2 E2 S2 W2	1	2s	SM	Ivy smothering base, trunks and through crowns-growing within a shrub border and surrounded by shrubs	Sever ivy at ground level	>40	B2
Grp 2	Silver Birch <i>Betula pendula</i> x 2 of	12 to 14	240 160	N2.5 E2.5 S2.5 W2.5	3	3 nesw	SM	Ivy smothering base, trunks and through crowns-both lean-crown shape dictated by group pressure-these two trees grow in opposite directions to north and south	Sever ivy	20-30	C2
Grp 3	Crack Willow <i>Salix fragilis</i> x 5 of	12 to 14	240	N2.5 E2.5 S2.5 W2.5	0	0 nesw	SM	Ivy smothering base and trunks-crown shape dictated by group pressure-merged crowns-poor quality trees-growing in a linear belt	No work considered essential at time of survey	20-30	C2
1	Grey Willow <i>Salix cinerea</i>	5	130 200 180	N2.5 E2.5 S2.5 W2.5	0	1n	SM	Multi stemmed at ground level-crown shape dictated by group pressure	No work considered essential at time of survey	30-40	C1
2	Norway Maple <i>Acer platanoides</i>	6	170	N1.5 E1.5 S1.5 W1	1	1e	SM	Fair shape and form	No work considered essential at time of survey	>40	B1
Grp 4	Ash (<i>Fraxinus</i>) Lime (<i>Tilia</i>) Willow (<i>Salix</i>) Field Maple (<i>Acer</i>) Poplar (<i>Populus</i>) Dogwoods (<i>Cornus</i>)	2 to 3	Avg 20 to 30	N- E- S- W-	0	0 nesw	Y	Crown shape dictated by group pressure-merged crowns-a mass of self seeded saplings with the car park edge planted up with shrubs	No work considered essential at time of survey	10-20	C2
3	Hornbeam <i>Carpinus betulus</i>	8	170	N3 E3 S4 W2.5	0	0s	SM	Ivy smothering base-multi stemmed at ground level-crown shape dictated by group pressure-low branching habit	No work considered essential at time of survey	>40	B1

4	False Acacia <i>Robinia pseudoacacia</i>	9	250	N4.5 E4.5 S4.5 W4.5	2	2.5e	SM	Ivy smothering base, trunk and through crown-some dieback-small diameter deadwood throughput-good shape and form	Sever ivy	>40	A1
Grp 5	Grey Poplars <i>Populus canescens</i>	14 to 16	250 to 400	N3 E3 S3 W3	0	0 nesw	SM	Ivy smothering base and trunk-crown shape dictated by group pressure-merged crowns-low branching habit	No work considered essential at time of survey	30-40	B2 / C2
Grp 6	Blackthorn thicket <i>Prunus spinosa</i>	3	Avg 10 to 20	N-E-S-W-	0	0 nesw	Y	Crown shape dictated by group pressure-merged crowns-a massed thicket of intertwined stems	No work considered essential at time of survey	20-30	C2
5	Italian Alder <i>Alnus cordata</i>	15	250 #	N4 E4 S4 W4	2	2n	SM	Unable to access as tree is off site-good shape and form	No work considered essential at time of survey	>40	A1
Grp 7	Alder (<i>Alnus</i>) x 1 of Norway Maple(<i>Acer</i>) x 3 of	9	170 #	N3 E3 S3 W3	2	2 nesw	Y	Unable to access as trees are off site-crown shape dictated by group pressure-merged crowns	No work considered essential at time of survey	>40	B2
Grp 8	Ash (<i>Fraxinus</i>) Crack Willow (<i>Salix</i>) Grey Poplars (<i>Populus</i>)	12 to 20	Avg 250	N-E-S-W-	0	0 nesw	SM	Ivy smothering base, trunks and through crowns-crown shape dictated by group pressure-merged crowns-low branching habit-massed planting of shelterbelt form	Sever ivy	>40	B2
6	Flowering Cherry <i>Prunus avium</i>	11	240	N5 E6 S4 W1.5	3	2.5e	SM	Ivy smothering base and trunk-bifurcated at 2.5m above ground level-suppressed to west side-crown shape dictated by group pressure	Sever ivy	20-30	C1
7	Flowering Cherry <i>Prunus avium</i>	4	100	N0 E2 S1 W0	2	2n	Y	Suppressed-dieback-cankered trunk and branch work	No work considered essential at time of survey	10-20	C1
8	Scarlet Oak <i>Quercus coccinea</i>	12	240	N4 E6 S4 W3	3	3w	SM	Bifurcated at mid height-good shape and form	No work considered essential at time of survey	>40	A1

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9	Tree of Heaven <i>Ailanthus altissima</i>	9	270	N4.5 E4.5 S5 W4	3	2.5s	SM	Multi stemmed at 2.5m above ground level-small diameter deadwood-good shape and form	No work considered essential at time of survey	>40	A1
10	Silver Birch <i>Betula pendula</i>	6	90	N1 E2.5 S2.5 W1.5	3	3e	Y	Suppressed-poor quality tree-trimmer damage around basal area	No work considered essential at time of survey	10-20	C1
11	Silver Birch <i>Betula pendula</i>	4	80	N2 E1 S0 W0	2	2.5n	Y	Suppressed-low crown density-low vigour and vitality-significant dieback-poor quality tree-trimmer damage around basal area	Fell and grub out	0-5	U
12	Norway Maple <i>Acer platanoides</i>	9	230	N5 E5 S5 W5	3	2.5w	SM	Ivy smothering base and trunk-good shape and form	Sever ivy	>40	A1
13	Tree of Heaven <i>Ailanthus altissima</i>	9	240	N4 E4 S4 W3	4	4 nesw	SM	Good shape and form	No work considered essential at time of survey	>40	A1



Tree Survey Plans



Root Protection Area Schedule



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ROOT PROTECTION AREA SCHEDULE

Client : Horizon Leisure Centres

Site Location : WaterlooVille Leisure Centre, Waterberry Drive, WaterlooVille

Tree No.	Tree Species	Cat	Diam mm	BS5837:2012 Table D1 Radial Protection Zone m	BS5837:2012 Table D1 Polygon Area m ²	Is An Offset Required To Cater For Existing Rooting Pattern Restrictions
Grp 1	Silver Birch <i>Betula pendula</i> x 2 of	B2	200	2.4	18	NO – fairly free rooting to all directions
Grp 2	Silver Birch <i>Betula pendula</i> x 2 of	C2	240 160	3.5	38	NO – there are constraints all around these trees which cancel each other out
Grp 3	Crack Willow <i>Salix fragilis</i> x 5 of	C2	240	2.9	26	NO – there are constraints all around these trees which cancel each other out
1	Grey Willow <i>Salix cinerea</i>	C1	130 200 180	3.6	40	NO – fairly free rooting to all directions
2	Norway Maple <i>Acer platanoides</i>	B1	170	2.0	13	NO – fairly free rooting to all directions
Grp 4	Ash (<i>Fraxinus</i>) Lime (<i>Tilia</i>) Willow (<i>Salix</i>) Poplar (<i>Populus</i>) Field Maple (<i>Acer</i>) Dogwoods (<i>Cornus</i>)	C2	Avg 20 to 30	1.0	3	NO – fairly free rooting to all directions
3	Hornbeam <i>Carpinus betulus</i>	B1	170	2.0	17	NO – fairly free rooting to all directions
4	False Acacia <i>Robinia pseudoacacia</i>	A1	250	3.0	28	NO – there are constraints all around this tree which cancel each other out
Grp 5	Grey Poplars <i>Populus canescens</i>	B2 / C2	250 to 400	4.8	72	NO – if anything there is competition within the group but free rooting to the outer edges
Grp 6	Blackthorn thicket <i>Prunus spinosa</i>	C2	Avg 10 to 20	1.0	3	NO – if anything there is competition within the group but free rooting to the outer edges
5	Italian Alder <i>Alnus cordata</i>	A1	250 #	3.0	28	NO – there are constraints all around this tree which cancel each other out
Grp 7	Alder (<i>Alnus</i>) x 1 of Norway Maple(<i>Acer</i>) x 3 of	B2	170 #	2.0	17	NO – there are constraints all around this tree which cancel each other out

Grp 8	Ash (<i>Fraxinus</i>) Crack Willow (<i>Salix</i>) Grey Poplars (<i>Populus</i>)	B2	Avg 250	3.0	28	NO – if anything there is competition within the group but free rooting to the outer edges
6	Flowering Cherry <i>Prunus avium</i>	C1	240	2.9	26	NO – fairly free rooting to all directions
7	Flowering Cherry <i>Prunus avium</i>	C1	100	1.2	5	NO – fairly free rooting to all directions
8	Scarlet Oak <i>Quercus coccinea</i>	A1	240	2.9	26	NO – fairly free rooting to all directions
9	Tree of Heaven <i>Ailanthus altissima</i>	A1	270	3.2	33	NO – fairly free rooting to all directions
10	Silver Birch <i>Betula pendula</i>	C1	90	1.1	4	NO – fairly free rooting to all directions
11	Silver Birch <i>Betula pendula</i>	U	80	1.0	3	NO – this tree would be removed for health and safety and sound arboricultural management reasons regardless of any redevelopment proposals
12	Norway Maple <i>Acer platanoides</i>	A1	230	2.8	24	NO – fairly free rooting to all directions
13	Tree of Heaven <i>Ailanthus altissima</i>	A1	240	2.9	26	NO – fairly free rooting to all directions



Root Protection Area 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 offices at : –
3 Foxcombe Cottages, South Harting, West Sussex GU31 5PL and also at Cedar Court, 5 College Street, Petersfield
- I hold the following arboricultural qualification - **Master of Arboriculture** (Royal Forestry Society – 1976)
- I have over **forty** 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 surgery company and twelve years with CBA Trees as an Arboricultural Consultant.
- As an independent self employed Arboricultural Consultant 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 Public Local Inquiries.

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