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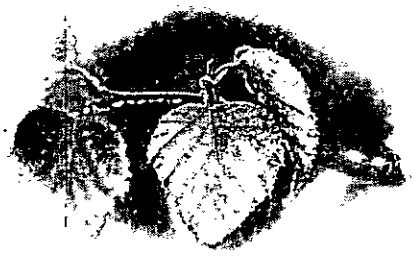
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Corporate Mail Room

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No cheque

WITH COMPLIMENTS

FAO/ Steve Kirkham, Planning Department,
Barnsley Metropolitan Council.
Reference 2008/0774



Sylvanus

Arboricultural Consultants Ltd

Director & Principal Consultant - J A Booth MBA, MSc, MICFor, CEnv, FArborA, MIEEM, MEWI, DipArb(RFS), CUEW, LCGI(Hort), NDArb

Arboricultural Survey Report

at

The Kendray PH
Barnsley

for and on behalf of

Paul Gaughan Building Consultancy

22 August 2008

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Arboricultural Association REGISTERED CONSULTANT

EWI MEWI

Institute of Chartered Foresters Registered Consultant

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1 INTRODUCTION

1.1 ***Author's Qualifications and Experience***: John Booth is a Chartered Forester, a Chartered Environmentalist, a member of the Expert Witness Institute, a Fellow, Registered Consultant and past national Chairman of the Arboricultural Association. He has over twenty years experience of arboriculture and amenity tree management and has written papers published in respected journals such as the International Journal of Urban Forestry. He is trained in the use of the Quantified Tree Risk Assessment (QTRA) methodology and is a Bond Solon/Cardiff University certificated Expert Witness. A full CV can be found at Appendix 1.

This report is based on his site observations and the information provided.

1.2 ***Instructions and Brief:*** Mr Paul Gaughan of Paul Gaughan Building Consultants Ltd (the client), sought a fee proposal for the work necessary to inform a possible redevelopment of a site to the rear of The Kendray Public House, Barnsley (the site). A fee proposal was issued and accepted by the client on 19 August 2008. The brief was to inspect the trees shown on a plan provided and to prepare a tree survey report in accordance with British Standard 5837 (2005) '*Trees in Relation to Construction: Recommendations*.' General advice is given upon how any trees worthy of retention might be adequately protected during the anticipated construction activity and how satisfactory habitable space might be developed in proximity to trees. All tree survey data is recorded in the Tree Survey Schedule. The tree survey plan can be found at Appendix 2.

1.3 ***Documents & Information Provided***: Plans illustrating the current site layout (Ref PG/FOG/07/035/01) and that proposed (Ref PG/FOF/035/02 REV A) were provided. An excerpt of the existing layout has been used as a base plan for the Tree Survey Schedule survey plan can be found at Appendix 2.

1.4 ***Limitations:***

1.4.1 The findings and recommendations contained within this report are, assuming its recommendations are observed, valid for a period of twelve months

from the date of survey. Trees are living organisms subject to change – best practice dictates they are inspected on an annual basis for reasons of safety.

1.4.2 Tree rooting characteristics and soils are both enormously variable as are their interactions. This makes attempts to quantify subsidence risk assessment impossible. No effort has been made to assess subsidence risk potential nor should any be construed.

1.4.3 Whilst every effort has been made to detect defects within the trees inspected, no guarantee can be given as to the absolute safety or otherwise of any individual tree. Extreme climatic conditions can cause damage to even apparently healthy trees. All recommendations are given in the context of the site's current usage; any change will dictate a re-inspection.

1.4.4 Where trees were clad with ivy (*Hedera helix*) or where dense twig growth obscured the tree trunk, this was recorded in the Tree Survey Schedule. The inspection of such trees is impeded and ivy and twig growth and such should be removed and a further inspection carried out. The Retention Categories awarded to such trees can only be considered provisional.

1.4.5 This report has been prepared for the sole use of the client. Any third party referring to this report or relying on the information contained herein does so entirely at his or her own risk.

2 SITE VISIT AND OBSERVATIONS

2.1 ***Site Visit***: An unaccompanied site visit was carried out on 22 August 2008 by John Booth. The trees were inspected visually from the ground. No drilling or excavation was carried out on this occasion. The weather at the time of the inspection was dry and visibility was good.

2.2 ***Tree Survey Methodology:*** Details consistent with the approach recommended in British Standard 5837 (2005) *'Trees in Relation to Construction:*

Recommendations' are recorded in the Tree Survey Schedule. The trees considered significant were inspected from the ground using 'Visual Tree Assessment' techniques; this is the method generally adopted and is appropriate in this instance. All significant trees/groups of trees were inspected, are listed in the Tree Survey Schedule and are numbered on an excerpt of the plan provided (See Appendix 2). Insignificant trees, shrubs and hedges are not included in this survey. Groups have only been identified as such in instances as are defined in BS 5837 (2005) *'Trees in Relation to Construction: Recommendations'* ie where, by virtue of the fact that trees are in such close proximity they function as a unit, in visual terms, aerodynamically or culturally.

Information recorded in the survey includes:

2.2.1 Species – The species identification is based on visual observations and the common English name of what the tree appeared to be is listed first, with the botanical name after in brackets. The species listed for groups and any hedges surveyed represent the main component; there may be other minor species not listed. In some instances, it may be difficult to quickly and accurately identify a particular tree without further detailed investigations. Where there is some doubt of the precise species of tree, it is indicated it with a '?' after the name in order to avoid delay in the production of this report. The botanical name would be followed by the abbreviation 'sp' if only the genus is known.

2.2.2 Tree Heights – are estimated in metres. Estimated mature heights are given in brackets. In the case of groups the maximum current and future height was recorded.

2.2.3 Crown Height – The height to the lowest branch is estimated in metres. In the case of groups of trees minimum crown height was recorded.

2.2.4 Trunk Diameters – were measured by and are recorded in millimetres to the nearest 10mm. In the case of groups of trees the maximum diameter was recorded.

2.2.5 Crown Radius – was recorded in metres along each of the cardinal points. In the case of groups of trees the maximum peripheral spread was recorded.

2.2.6 Age Class – recorded as prescribed *in* British Standard 5837, (2005), *'Trees in Relation to Construction: Recommendations):*

Yng	-	Young tree age less than 1/3 life expectancy
Mid	-	Middle age trees 1/3-2/3 life expectancy
Mat	-	Mature
OM	-	Over Mature
Vet	-	Veteran

2.2.7 The ***Condition*** of the trees is based upon a preliminary assessment categorised thus:

A - Good
B - Fair
C - Poor
D - Very poor/Dead

In the case of groups of trees only a general assessment can be made.

2.2.8 Life Expectancy – estimated; ie less than 10 years, 10-20 years, 20-40 years, more than 40 years.

2.2.9 Preliminary Recommendations – works required regardless of development proposals.

2.2.10 A ***Retention Category*** – is given as follows which corresponds with Table 1 (See Appendix 3) of BS 5837 (2005) ie:

- **A** - Trees of a high quality and value, including visual amenity value (Sub categories 1, 2, 3). It is usual for such trees to be retained unless the merits of a particular scheme or layout over-ride.

- **B** - Trees of moderate quality and value, including visual amenity value(Sub categories 1, 2, 3). Such trees should be considered for retention.

- **C** - Trees of low quality and value including visual amenity value (Sub categories 1, 2, 3). ***The retention of Category C trees should not be***

allowed to impose a constraint on development.

- **R** - Trees in such a condition that they should be removed.

Sub-categories are also awarded and reflect where the value of a particular tree lies ie:

- **Sub-category 1** – awarded in recognition of arboricultural value,
- **Sub-category 2** – awarded in recognition of landscape value,
- **Sub-category 3** – awarded in recognition of cultural value, including historic value.

All sub-categories carry equal weighting and some trees may qualify in more than one category, although they will not accrue additional value if they do.

2.2.11 Root Protection Area (RPA) – In respect of all Retention Category A, B and C trees the RPA has been calculated and is given in the Tree Survey Schedule. The figure given represents the radial distance, from the trees trunk, at which the barriers should be erected.

The RPA is calculated thus:

Number of Stems	Calculation	
Single Stem Tree	RPA (m^2) =	$\left(\frac{\text{stem diameter (mm) @ 1.5m x 12})^2 \times 3.142}{1\,000}\right)$
Tree with more than one stem arising below 1.5m above ground level	RPA (m^2) =	$\frac{(\text{Basal diameter (measured immediately above root flare (mm) x 10)}^2 \times 3.142}{1\,000}$

British Standard 5837, (2005), '*Trees in Relation to Construction: Recommendations*', Page 8

3 TREE PROTECTION - GENERAL

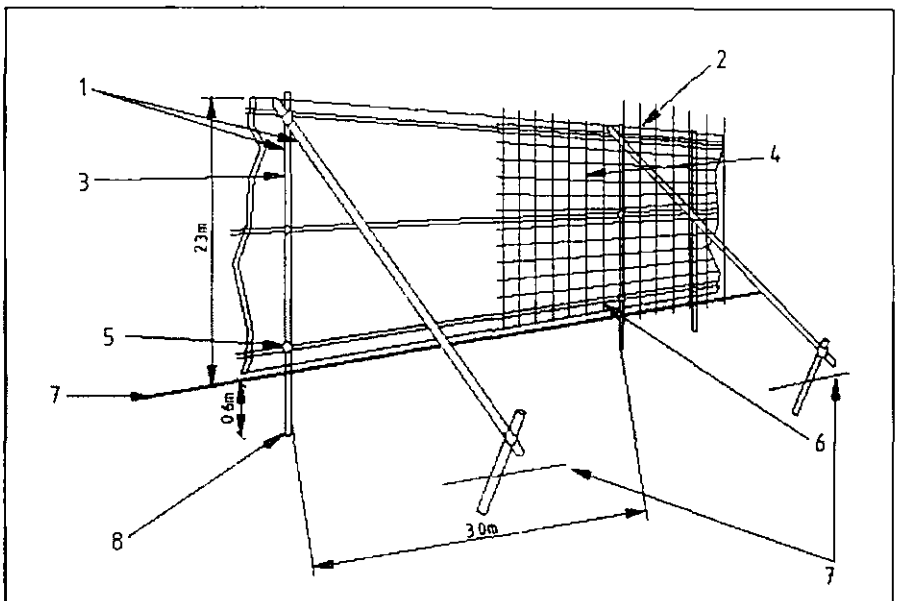
3.1 Below Ground Constraints: In order to achieve any development various construction activities are required and great care and consideration needs to be given as to how such activity can proceed whilst avoiding damage to retained

trees.

"Damage can occur as a result of direct impact between construction machinery and parts of a tree. Often greater damage and even destruction occurs quite invisibly due to the deformation of the soils in which the trees root. Soil stripping, trenching and compaction all have serious effects on trees and if such trees are to be successfully retained in the long term it is necessary to protect the soil during construction."

British Standard 5837, (2005), Para 3.1.2, '*Trees in Relation to Construction:– Recommendations*', Page 2

3.1.1 In order to avoid damage to their roots, trees should be protected using protective barriers as are detailed in British Standard 5837, (2005), '*Trees in Relation to Construction: Recommendations*' and as illustrated in Figure 1. This should be erected around the RPA prior to the commencement of the demolition/construction activity and must remain in situ and intact until completion. The area within this fencing should be considered sacrosanct, and no work should ordinarily be permitted within it. However, where hard surfacing exists within the RPA and where this is to remain it is acceptable to erect protective fencing at the edge of the hard surface and to utilise this space for operational purposes. Protective barriers should only be removed following consultation with an arboriculturalist and the Local Planning Authority (LPA). In an effort to ensure any tree protective fencing remains during construction, it is further advised that it carries signage as per Figure 2 and that the Site Agent is briefed accordingly, or that an arboricultural supervisor is employed. It is increasingly the case that LPA's will, by means of a planning condition, require arboricultural supervision of construction works close to trees, particularly on sensitive sites.



1 Standard scaffold poles
2 Uprights to be driven into the ground
3 Panels secured to uprights with wire ties and where necessary standard scaffold clamps
4 Weldmesh wired to the uprights and horizontals
5 Standard clamps
6 Wire twisted and secured on inside face of fencing to avoid easy dismantling
7 Ground level
8 Approx. 0.6 m driven into the ground

Figure 2 — Protective barrier

Figure 1 - Tree Protection Barrier

BS5837, (2005), '*Trees in Relation to Construction: Recommendations*, Page 13.



Figure 2 - Fence Notice

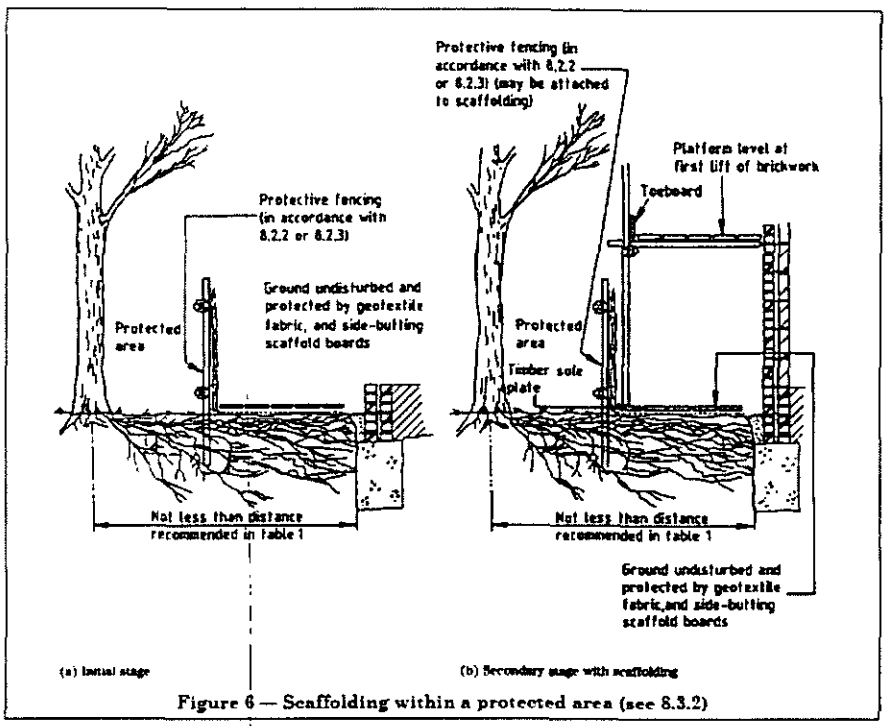


Figure 3

British Standard 5837, (2005), '*Trees in Relation to Construction: Recommendations*, Page 14

3.1.2 Should further space be required during construction, for example, for the construction of scaffold, this can be satisfactorily achieved by employing the technique illustrated in Figure 3 above.

3.1.3 In addition and in order to maximise a sites' development potential, it may be possible to employ special foundation design such as mini pile and suspended beam; which can enable construction within the RPA. Such foundations would need to limit excavation to a minimum and involve a suspended, load bearing structure. This structure will need to carry the weight of any building without transferring the load thereby creating soil compaction. The location of any mini piles would need to be flexible so as to avoid damage to major roots and the necessary excavation for the piles may need to be carried out by hand. Further advice from a structural engineer and an arboriculturalist should be sought on this matter. Where such is proposed, careful consideration must be given to the avoidance of above ground conflicts (See Para 3.2).

3.1.4 ***Services*** – The following is offered as general guidance. Careful consideration must be given to the siting of services eg drains, electricity, gas etc and trenches should ideally not be sited within the RPA; where it is unavoidable, trenchless technology or hand digging should be employed. In order that they can assess any impact upon trees it is likely that the LPA will require the submission of details regarding service location and installation methodology prior to the granting of any planning consent. Sylvanus Ltd would be happy to prepare a method statement for the installation of services should it be required.

3.2 ***Above Ground Constraints***: Consideration must also be given to the aerial parts of the tree in relation to any construction; particularly residential buildings. Conflict frequently arises where dwellings are placed close to trees and such gives rise to concern relating to shade, falling debris such as leaves and twigs and from a perceived threat of tree failure. This can often be overcome, in part at least, by carefully ensuring adequate useable garden space is provided and is not dominated by trees and that principal windows face away from trees. The LPA are likely to resist any proposal that results in built structures close to trees or that makes inadequate provision for their future growth. This is because occupants regularly feel apprehensive and pressure to fell or heavily prune trees results. In some instances the distances required to avoid these conflicts may, depending upon the design and/or purpose of a proposed structure, be greater than those expressed as the RPA.

3.3 ***Tree Constraints & Tree Protection Plans:*** Increasingly, to assist in their determination of planning applications, LPA's are requiring plans which portray, with a reasonable degree of accuracy, tree crown spreads across the four cardinal points. Similarly, plans illustrating the location of protective fencing are often sought. The information provided within this report is adequate to allow the production of such plans, however, Sylvanus Ltd would be happy to be instructed to produce such if required.

British Standard 5837, (2005), '*Trees in Relation to Construction: Recommendations*' advises that when illustrating trees on a plan, in an effort to

distinguish between the various Retention Categories, Category A trees should be illustrated in Light Green, Category B trees in Mid Blue, Category C trees in Grey and Category R trees in Dark Red (See Appendix 3).

4 DISCUSSION & IMPLICATIONS

4.1 The trees comprising the subject group are to be found on the periphery of the site where they provide some screening. They are Lombardy Poplar (*Populus nigra var italica*) Weeping Willow (*Salix x chrysocoma*), Birch (*Betula pendula*), Hawthorn (*Crataegus monogyna*) and Sycamore (*Acer pseudoplatanus*). The Lombardy Poplars offer little in the way of screening as a consequence of their upright form. The Willows have been previously 'Topped', decay has established with an increased likelihood of branch shedding being the consequence. The Sycamores are of bifurcated form with many tight basal unions which are likely to fail. In summary, none of the trees are of any particular arboricultural merit and Retention Category C is considered appropriate ie these are trees whose condition is such that their retention should not be allowed to constrain development.

4.2 The construction of the access will necessitate the loss of some trees to the south west of the site, as will the turning head close to the northern boundary.

4.3 Similarly, the construction of plot 1 will directly necessitate some tree loss.

4.4 The tree loss is of little consequence in arboricultural terms and could be readily compensated for with replacement planting and the client has expressed a desire to implement such.

5 RECOMMENDATIONS

5.1 This report provides guidance for the design team and sets out constraints relating to the trees on site. Tree survey and RPA detail can be found in the Tree Survey Schedule.

5.2 It is recommended that an a site visit is undertaken with the Local Authority's Tree Officer to ensure that the approach for development and tree retention is suitable; therefore ensuring any issues are resolved from the outset. Sylvanus Ltd would be happy to make representation at such a meeting.

5.3 Any trees to be retained must be afforded the protection of stout barriers as described.

6 OTHER CONSIDERATIONS

6.1 Trees Subject to Statutory Controls:

6.1.1 No attempt has been made to establish the existence of either Tree Preservation Orders or Conservation Areas. The following is given as general advice.

6.1.2 Trees can be subject to statutory control and severe penalties can result from unauthorised works or damage. It is recommended that prior to commencement of any tree works the LPA are contacted. When proposing to do works to trees within a Conservation Area, with some exceptions, six weeks written notice must be given to the LPA. This notice is often referred to as a Section 211 Notice. Having received such a notice the LPA has essentially only one of two options at its disposal ie:

- **Impose a TPO** in respect of those trees/some of those trees subject to the notice. This prevents any works being carried out without the express, written consent of the LPA,

or

- **Do nothing** It is considered best practice for an LPA to acknowledge receipt of the notice but there is no obligation for it to do so. After six weeks of serving the notice the tree owner may proceed with the works detailed in the Section 211 Notice.

The LPA cannot, in response to a Section 211 Notice, issue a conditional consent.

6.1.3 TPO's are made in the interests of preserving amenity, usually taken to mean public visual amenity. Trees largely removed from public view and which have little visual impact are not usually made the subject of a TPO.

6.1.4 Further advice can be found at -
http://www.communities.gov.uk/publications/planningandbuilding/protectedtrees

6.2 ***Trees and Wildlife*:** Trees play host to nesting birds many of which are protected by law. All British bat species are also protected and can be found in trees. Great care needs to be taken to avoid disturbance and consideration should be given to the timing of tree works in order to avoid disturbance. Where the presence of protected species is suspected, Natural England should be contacted for advice.

6.3 ***Implementation of Tree Works*:** Guidance on hiring an Arborist is available from both Sylvanus Ltd and the Arboricultural Association. The Arboricultural Association's Register of Contractors is available free from Ampfield House, Romsey, Hants, SO51 9PA (Telephone 01794 368717, www.trees.org.uk). The contractor should carry out all tree works to BS 3998 (1991) '*Recommendations for Tree Work*' as modified by research that is more recent. Sylvanus Ltd can assist with the appointment of a tree surgery contractor and provide on-site supervision.

6.4 ***New Planting:*** It is possible that any planning permission issued will carry a condition requiring new tree planting, particularly in instances where a proposal involves the removal of trees. Further advice is available upon request.

7 REFERENCES

- British Standard 5837:2005 '*Trees in Relation to Construction: Recommendations.*'
- British Standard 3998:1989 '*Recommendations for Tree Work*'.
- The Body Language of Trees, C Mattheck, H Breloer.

8 Tree Survey Schedule

Tree No	Species	Ht (m)	Stem Dia (mm)	Branch Spread (m)				Crown Ht. (m)	Age Class	Cond.	Preliminary Recs.	Life Exp. (yrs)	Ret Cat	RPA (Lin M)
				N	E	S	W							
G1	Lombardy Poplar (*Populus nigra var italica*) Weeping Willow (*Salix x chrysocoma*), Birch (*Betula pendula*), Hawthorn (*Crataegus monogyna*), Sycamore (*Acer pseudoplatanus*)	17 (25)	420	3	3	3	3	0	Mid	B/C	None at this *moment in time*	20-40	C2	5.0

9 APPENDICES

Appendix 1

Curriculum Vitae

CURRICULUM VITAE

John Booth MBA, MSc, MICFor, CEnv, FArborA, MEWI, MIEEM, DipArb(RFS), CUEW, LCGI(Hort), NDArb

DATE OF BIRTH 30.06.64

PROFESSIONAL QUALIFICATIONS

National Diploma in Arboriculture (Distinction) (B Tec), Merrist Wood College
1987-1990
RFS Professional Diploma in Arboriculture, Merrist Wood College
1992-1993
Nottingham/Derby Universities, Masters in Business Administration (MBA)
2002-2005
MSc in Environmental Management (Distinction), Sheffield/Hallam University
2005-2006
Expert Witness Certificate, Cardiff University
2007
Lantra Certificate – Professional Tree Inspection
2007

CAREER

2007 - Director of Sylvanus Arboricultural Consultants Ltd. (www.jabooth.co.uk)
1994 – 2007 - Arboricultural Manager for Derby City Council.
1990 – 1994 – Tree & Landscape Officer for Wycombe DC
1988 – 1989 – Assistant Arboricultural Officer for Bolton MBC
1981 – 1987 – Arborist for Bolton MBC

CONTINUING PROFESSIONAL DEVELOPMENT (CPD)

The maintenance of an active CPD record is a strict membership requirement of the following professional organisations –

- The Arboricultural Association
- The Institute of Chartered Foresters
- The Institute of Expert Witness's
- The Institute of Ecology and Environmental Management

MEMBERSHIP OF PROFESSIONAL BODIES

Chartered member of the Institute of Chartered Foresters
Chartered Environmentalist
Fellow, past National Chair, Trustee and Registered Consultant of the Arboricultural Association
Member of Institute of Ecology and Environmental Management
Licentiate of City & Guilds Institute

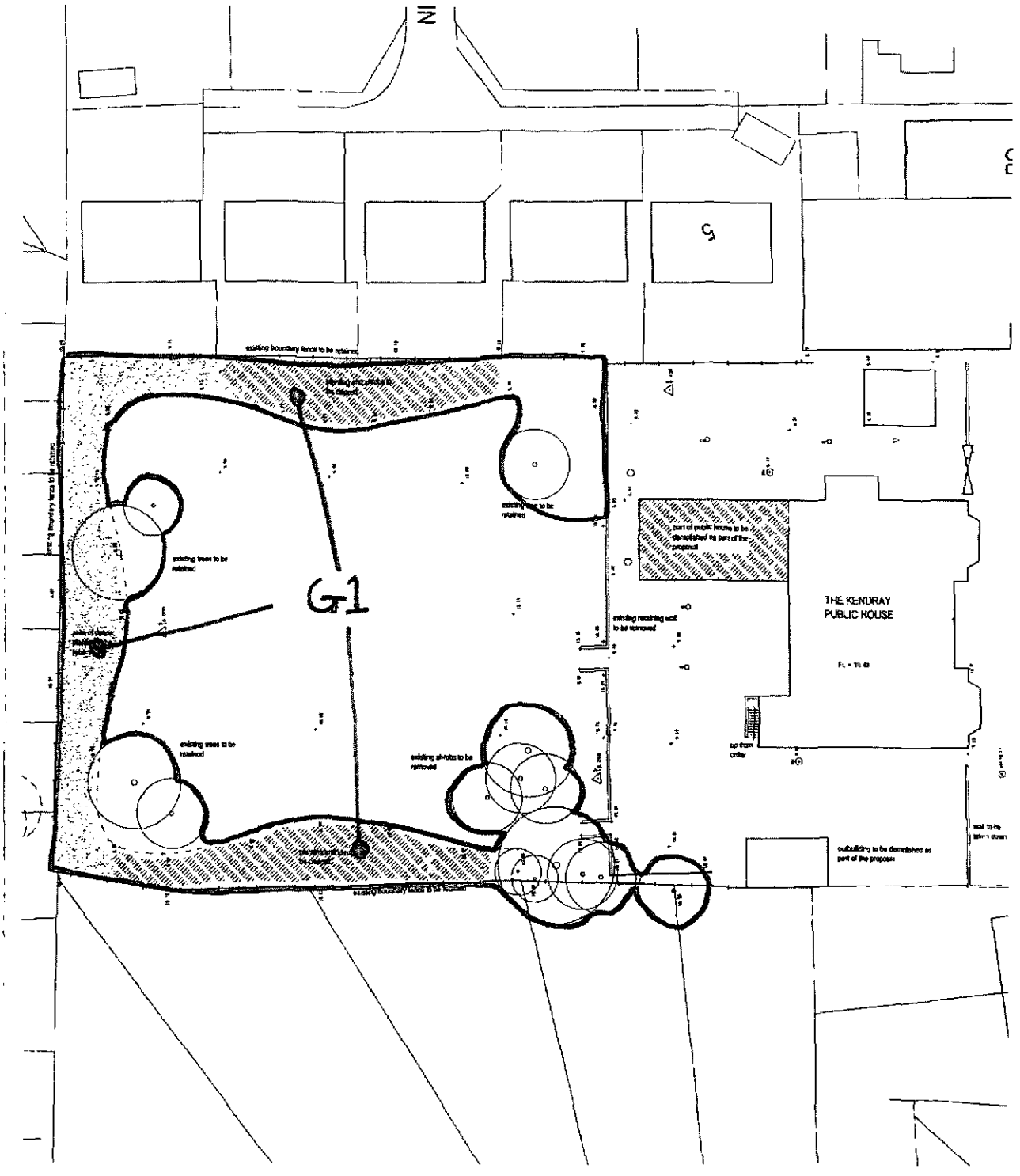
PUBLICATIONS

Numerous articles and papers in academic journals and trade literature.

Appendix 2

Survey Plan

(Not to Scale)


N
G1
THE KENDRAY
PUBLIC HOUSE

Appendix 3

BS 5837(2005) Table 1 – Retention Categories

TREES FOR REMOVAL

Category and Definition	Criteria	Identification on Plan
Category R Those in such a condition that any existing value would be lost within ten years and which should, in the current context, be removed for reasons of sound arboricultural management	• 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 R Category trees (ie 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) eg Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality. NOTE: Habitat reinstatement may be appropriate (eg R Category tree used as a bat roost; installation of bat box in nearby tree).	DARK RED

TREES TO BE CONSIDERED FOR RETENTION

Category and Definition	Criteria – Subcategories			Identification on Plan
	1 Mainly arboricultural values	**2 Mainly landscape values**	**3 Mainly cultural values, including conservation**	
Category A **Those of high quality and value:** in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested)	Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (eg the dominant and/or principal trees within an avenue)	Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (eg avenues or other arboricultural features assessed as groups)	Trees, groups or woodlands of significant conversation, historical, commemorative or other value (eg veteran trees or wood-pasture	LIGHT GREEN
Category B **Those of moderate quality and value:** those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)	Trees that might be included in the high category, but are downgraded because of impaired condition (ie presence of remediable defects including unsympathetic past management and minor storm damage)	Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal arboricultural features (eg trees of moderate quality within an avenue that includes better A Category specimens) or trees situated mainly internally to the site, therefore individually having little visual impact on the wider locality	Trees with clearly identifiable conservation or other cultural benefits	MID BLUE
Category C **Those of low quality and value:** currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150mm	Trees not qualifying in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit	Trees with very limited conservation or other cultural benefits	GREY
	NOTE: Whilst C Category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem of less than 150mm should be considered for relocation			

Appendix 4

BS 5837(2005) Trees in Relation to Construction:

Successful Integration of Trees into New Development – A Guide to Process



Sylvanus

Arboricultural Consultants Ltd
www.jabooth.co.uk

BS 5837(2005) Trees in Relation to Construction:

Successful Integration of Trees into New Development – A Guide to Process

Arboricultural Stage 1
Tree survey and preliminary constraints advice obtained from Arboriculturalist

- including survey/schedule and Tree Constraints Plan (TCP) if required
- TCP based on:
  - R = Remove
  - A = Retain unless planning considerations over-ride
  - B = Consider retention
  - C = Retain if not restraining proposal

Arboricultural Stage 2
Design review

- evaluation of arboricultural implications of emerging site layout
- design tested against tree protection requirements in relation to the following:
  - Root Protection Area (RPA) (barriers/ground protection and special engineering)
  - space necessary to accommodate anticipated growth of retained trees (setback distances and shading analysis)
  - Protection/remediation in areas identified for new planting
- Arboriculturalist works within design team to develop best fit scheme
- Object is to establish optimal development potential whilst appropriately retaining trees of greatest value.

Arboricultural Stage 3

Preparation of supporting documentation

- Arboricultural Impact Assessment is produced by an Arboriculturalist. This will demonstrate that trees have been properly considered by:
  - an analysis of the tree retention/removal balance
  - information on how retained trees will be protected
- Typical appendices include:
  - Tree survey plan
  - Tree schedule
  - Tree retention/removal plan
  - Tree Protection Plan
  - Arboricultural Method Statement, and sometimes
  - Shading analysis

Arboricultural Stage 4

Securing discharge of planning conditions

- Arboriculturalist works with design team to resolve any outstanding details
- Tree friendly solutions and ongoing design review relating to the build process:
  - drainage, services, site infrastructure, construction management
- often includes preparation of detailed Arboricultural Method Statements

(Stage 4 frequently overlaps with Stage 5)

Arboricultural Stage 5

Implementation

- Local Planning Authorities (LPA's) are increasingly using planning conditions to ensure tree protective fencing is maintained once work on site commences.
- Arboricultural site monitoring can be offered to LPA to demonstrate trees have been carefully considered during the whole process. It includes:
  - checking correct alignment and construction of tree protection
  - ensuring compliance with Arboricultural Method Statements
  - responding to emerging questions from Site Agent etc