M.C.I.A.T.
Peter Thompson
Architectual Design Consultant Ltd

Linwood • Barnsley Road • Dodworth • Barnsley • S75 3JR
Tel & Fax: **01226 201391** Mobile: **07973 251730**
E-mail: **peter-thompson**@hotmail.co.uk

Chartered Institute of Architectural Technologists

Planning Dept.

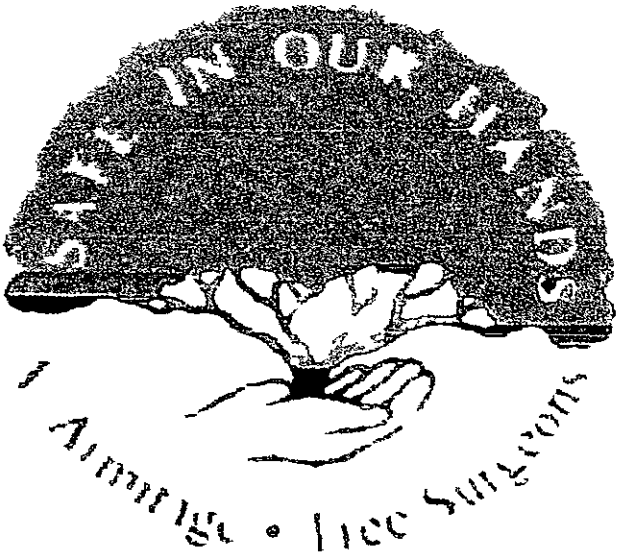
f.a.o. Magnus Cooke

Re: 2012/0681 Treetops House, Workbank Lane, Thurlstone

Please find attached Tree Survey & annotated site plan

With Compliment [redacted]

DM
NO CHQ



ARMITAGE (UK) LTD
TREE SURVEY
LAND OFF INBIRCHWORTH RD/
WORK BANK LANE
THURLSTONE

CONTENTS

TREE SURVEY
LANE OFF
INBIRCHWORTH RD/
WORK BANK LANE
THURLSTONE

Our Ref AA/JEA/500
14 September 2007

1 INTRODUCTION

1 a CONSULTANT

My name is Adrian Armitage and I have the National Diploma in Horticulture/Arboriculture and the Arboricultural Associations Technical Certificate in Arboriculture I also have the Royal Forestry Society Certificate in Arboriculture and the National Certificate in Horticulture

I have worked in the arboricultural industry since 1978 and have wide range of experience I have dealt with trees with Tree Preservation Orders, Building Society and Insurance work Subsidence claims, Planning Appeals and Public Inquires

1 b PURPOSE OF REPORT

A report is needed at the above location to give detailed arboricultural advice on the trees present and to give specific recommendations on necessary arboricultural work

1 c TERMS OF REFERENCE

I was instructed by Mr & Mrs Walker to visit the s te and prepare my findings in a report

2 THE SITE AND THE INSPECTION

2 a BACKGROUND

The site is an area of land at the corner of Ingbirchworth Road and Work Bank Lane and is currently part of the garden of Springfield House The trees are situated mainly around the site boundaries

Mr Walker has requested an accurate tree survey be provided to act has a supporting document for a planning application to be considered by Barnsley M B C The tree survey will be carried out in accordance with British Standard Recommendations 5837 clause 5 1 and 5 2 'trees in relation to construction

The site plan attached shows the location of the trees surveyed

2 b TREES STATUS

The trees on this site are subject to conservation area restrictions so are protected by the Local Authority No work can be carried out without prior permission from the Planning Department tree section

2 c METHOD OF INSPECTION

The inspection of the trees was carried out at ground level using visual assessment of the trees canopy stem and rooting area

3 Explanation of Terms and Abbreviations

Age Class Y = Young
S/M = Semi Mature
M = Mature
O/M = Over Mature

Height This is measured approximately in metres

D B H This is Diameter at Breast Height and is measures in metres

Spread This is measured at the crowns widest point in metres

Cond The trees condition. G = Good, F = Fair and P = Poor

Vigour The trees rate of growth Vig = Vigourous Ave = Average and L = Low

Form Relates to the trees shape and appearance G = Good, F = Fair and P = Poor

Life Exp Details expected life of the tree
1 = 0 to 10 years life expectancy
2 = 10 to 25 years life expectancy
3 = 25 to 50 years life expectancy
4 = 50+ years life expectancy

Amenity The amenity value of the tree High, Average or Low

Epicormic Shoots These are small branches which grow in clusters around the base or stem of the tree usually the result of bad pruning or some other stress factor

Crown thin The removal of some of the density of a trees crown usually 5% to 25%

Crown clean The removal of weak, crossing and dangerous branches from within the trees crown

Crown lift The removal of the lowest branches usually to a given height

Deadwood The removal of all dead, dying and diseased branches from the tree

4 **COLOUR CODED KEY**

☐ **Trees whose retention is most desirable High Category**

1 Vigorous healthy trees, of good form, and in harmony with proposed space and structures.
2 Healthy young trees of good form, potentially in harmony with proposed development
3 Tree for screening or softening the effect of existing structures in the near vicinity or of particular visual importance to the locality
4 Trees of particular historical commemorative or other value or good specimens of rare or unusual species.

☐ **Trees where retention is desirable Moderate Category**

1 Trees that might be included in the high category but because of their numbers or slightly impaired condition, are downgraded in favour of the best individuals
2 Immature trees, with potential to develop into the high category

☐ **Trees, which could be retained Low Category**

1 Trees in adequate condition, or which can be retained with minimal tree surgery but are not worthy for inclusion in the high or moderate categories.
2 Immature trees, or trees of no particular merit.

☐ **Trees for removal Fell Category**

1 Dead or structurally dangerous trees.
2 Trees with insecure roothold.
3 Trees with significant fungal decay at base or on main bole.
4 Trees with a cavity or cavities of significance to safety
5 Trees that will become dangerous after removal of other trees for the reasons given in items 1 to 4

☐ **Line of protective fencing around trees**

☐ **Line of protective fencing (where minimum distance as been reduced by one third on one-side only to allow for access)**

Tree No	Species	Age	H'gt	Cr/Spr	DBH	Cond	Vigour	Form	Amenity	Life Exp	Comments	Action
1849	Sycamore	M	17m	6m	0 4m	Poor	Low	Poor	Ave	1	Over lifted tree showing signs of stress with dieback in crown	Fell
1850	Horse Chestnut	M	17m	8m	0 6m	Fair	Ave	Fair	High	2	Large limbs removed in past Reasonable specimen	Retain/ crown clean
1851	Sycamore	S/M	8m	5m	0 3m	Fair	Ave	Poor	Ave	3	Misshapen specimen due to shade	Retain/ crown clean
1852	Horse Chestnut	S/M	9m	6m	0 3m	Poor	Ave	Poor	Ave	2	Large wound on main stem showing early signs of decay	Fell
1853	Elm	S/M	7m	5m	0 3m	Poor	Ave	Fair	Ave	1	Suppressed with dieback in crown Typical signs of Dutch Elm disease	Retain/monitor crown Clean
1854	Sycamore	M	18m	7m	0 5m	Fair	Ave	Poor	High	3	Reasonable specimen Some minor wounds	Retain/ crown clean
1855	Elm	S/M	8m	4m	0 2m	Poor	Low	Poor	Ave	1	Dieback in crown large wound on trunk where branch removed Signs of Dutch Elm disease	Fell
1856	Sycamore	M	16m	5m	0 3m	Fair	Ave	Fair	Ave	3	Tall drawn specimen Heavily crown lifted	Retain/ crown clean

Tree No	Species	Age	H gt	Cr/Spr	DBH	Cond	Vigour	Form	Amenity	Life Exp	Comments	Action
1857	Sycamore	M	16m	6m	0 4m	Fair	Ave	Fair	Ave	3	Heavily lifted to clear telephone wire	Retain/ crown clean
1858	Sycamore	S/M	16m	6m	0 3m	Fair	Ave	Poor	Ave	2	One-sided crown Heavily lifted to clear telephone wire	Retain/ crown clean
1859	Lime	S/M	16m	6m	0 4m	Fair	Ave	Fair	Ave	3	Reasonable specimen growing well	Retain/ crown clean
1861	Sycamore	M	16m	6m	0 4m	Poor	Low	Poor	Ave	1	Tall drawn specimen Dieback in crown	Fell
1862	Sycamore	M	18m	7m	0 4m	Poor	Ave	Fair	Ave	1	Tall drawn specimen Cavities showing early signs of decay	Retain/ crown clean
1863	Sycamore	M	18m	8m	0 5m	Fair	Ave	Fair	Ave	3	Heavily lifted Slight lean on main stem	Retain/ crown clean
1864	Sycamore	S/M	16m	5m	0 3m	Fair	Ave	Fair	Ave	3	Tall drawn specimen	Retain/ crown clean
1865	Beech	S/M	12m	6m	0 2m	Good	Ave	Fair	Ave	4	Reasonable specimen	Retain/ crown clean
1866	Elm	S/M	15m	5m	0 4m	Fair	Ave	Fair	Ave	2	Reasonable specimen	Retain/ crown clean

Tree No	Species	Age	H'gt	Cr/Spr	DBH	Cond	Vigour	Form	Amenity	Life Exp	Comments	Action
1867	Sycamore	M	18m	8m	0 7m	Fair	Ave	Fair	Ave	3	Heavily lifted Large wound on trunk showing early signs of decay	Retain/ crown clean
1868	Sycamore	M	18m	7m	0 7m	Fair	Ave	Fair	Ave	2	Heavily lifted Minor wounds on trunk	Retain/ crown clean

1855
1853
1852
1854
1851
1850
1849
House
1856
1859
1861
1865
1864
1862
1866
1868
1863
1867

8 a TREE REMOVAL AND SURGERY

Prior to the erection of the protective fencing any tree felling or pruning works should be carried out

This will involve the removal of 4 trees

All the remaining trees on site will be crown cleaned to help promote health and vigour

All works should be carried out to British Standard 3998 1989 by qualified arborists

8 b SITE INSPECTIONS

After the tree surgery works have been completed and the protective fencing erected the developers Arboricultural Consultant will visit the site This will be to ensure that all works are being carried out correctly This would also be a good opportunity to invite the Local Authorities Tree Officer to carry out a site inspection Any changes discussed at this time can then be implemented to the satisfaction of all parties

During development the Arboricultural consultant should visit the site on a weekly basis to ensure that all works are being carried out in line with British Standard 5837 91 trees in relation to construction.

9 a Protective fencing around trees

All the trees that are to be retained should be protected by stout fencing to avoid damage to their root systems by severance or asphyxiation The fencing should run in a continuous line which runs along the position of the working zone as depicted on the site plan. Such fencing should be erected before any materials or machinery are brought on site and before development commences Once erected it should not be removed without prior consultation with a specialist in arboriculture

The fencing should be at least 1 2m high and comprise of a vertical and horizontal framework of scaffolding, well braced to resist impacts It should be strong and appropriate for the degree of construction activity taking place on site

9 b Additional precautions outside fenced areas

Once the area has been fenced off, any works on the remainder of the site can be carried out providing such works do not impinge on the protected areas

To prevent injury to the trees, oil or cement should not be stacked or discharged within 10m of the bole Materials generally should not be stacked or discharged within 5m of the bole

Concrete mixing should not be carried out within 10m of the tree

Fires should not be lit beneath or in close proximity to the trees canopy

Trees to be conserved should not be used as anchorage for equipment used for removing stumps roots or other trees, or any other purposes.

Care should be exercised when using cranes or similar equipment near the spread of the canopy of the tree

Allowances should be made for the slope of ground so that damaging materials such as concrete washing mortar or diesel oil cannot run towards the tree

Trees to be felled that are adjacent to or that lie within a continuous canopy of trees to be retained should be removed with care In some cases a tree may have to be removed in sections to avoid damage

10 Precautions in Respect of Temporary Work

If temporary vehicle access is required through the protected area, a reinforced concrete slab should be laid over the existing soil surface with appropriate protection along the road edge

If it is essential for scaffolding to be erected within a protected area, fencing in accordance with 8.2 2 or 8 2 3 should be erected to provide just sufficient space for the scaffolding The ground between this fencing and the building should be protected by boarding e g. scaffold boards, as shown in figure 6 A single thickness of boarding laid on the soil surface will provide sufficient protection for pedestrian loads but more substantial boarding sufficient to spread the load should be used for heavier traffic The ground beneath the boarding should be left undisturbed and should be protected with a porous geotextile fabric If necessary sand should be laid on the fabric to level the ground. When required, the building scaffolding should be erected The boarding should be left in place until the building works are finished

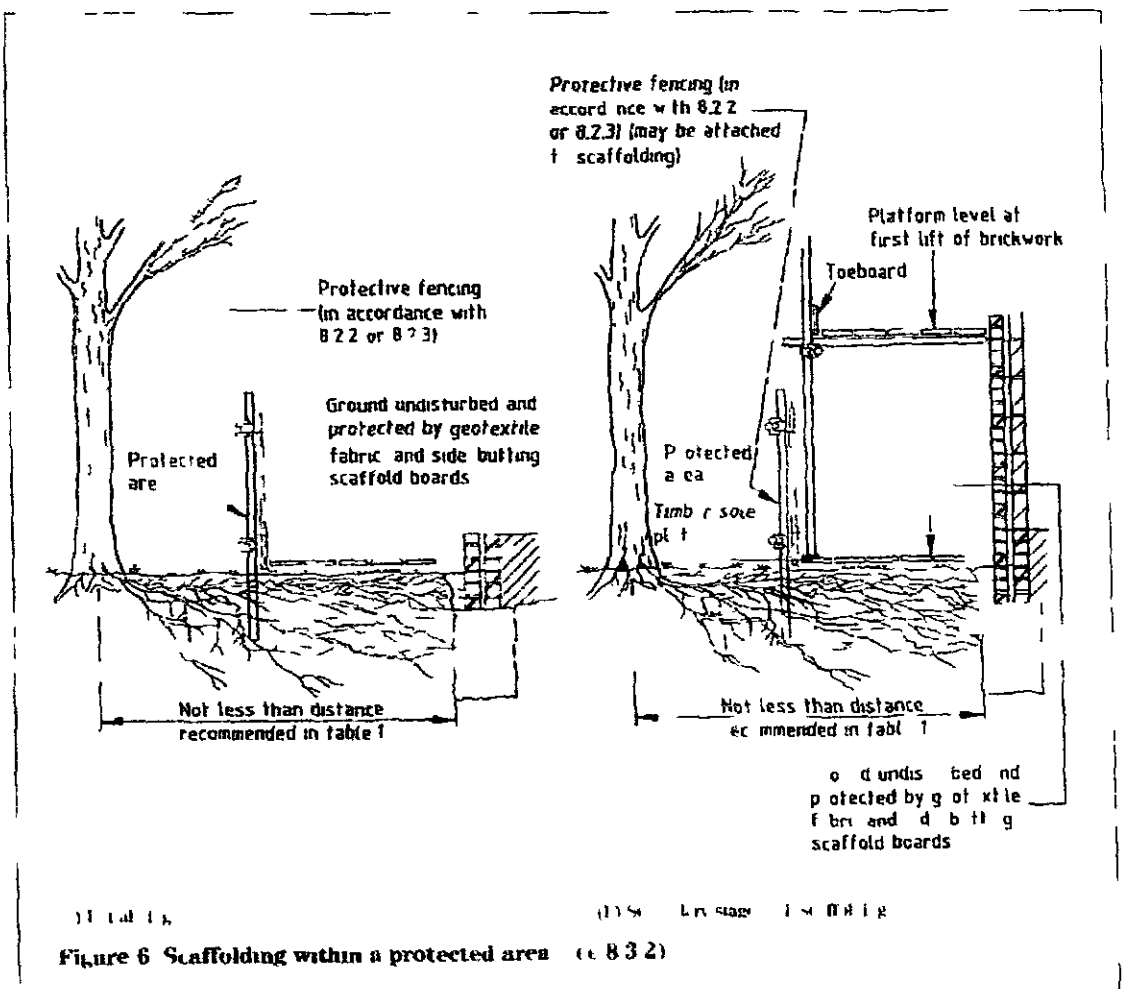


Figure 6 Scaffolding within a protected area (c 8 3 2)

11 a Trees root system

Most trees have been growing undisturbed on a site for many years and will have developed an extensive root system. There is a balance between the trees crown (which demands water) and the roots (which supply it) Any change in the soil conditions will upset this balance During construction machinery can squeeze the soil causing compaction, this reduces the amount of oxygen available to roots preventing them growing through the soil. Any material placed over the roots of a tree will reduce air movement into and out of the soil resulting in the reduction of oxygen to the roots This results in progressive shoot and branch dieback until a new balance can be reached However if damage is severe and a new balanced cannot be reached the tree will ultimately die

11 b Prevention of damage to roots

The majority of feeder roots occur in the uppermost 600mm of soil changes in level should be minimised

Kill ground vegetation using an appropriate herbicide such as glyphosate Herbicide products containing sodium chlorate should not be used All dead organic material should then be gathered up this would prevent the build up of anaerobic conditions beneath the construction, which may otherwise occur if vegetation is allowed to decompose

Construction should ideally be undertaken between May and October when the ground is driest and least prone to compaction.

All major protrusions such as tree or shrub stumps should be removed Stumps should be ground out rather than excavated to minimise soil disturbance

If excavation is so close to the tree that roots larger than 50 mm in diameter are encountered extra care should be taken to avoid damage Excavations should be undertaken by hand, avoiding damage to bark The roots should then be surrounded with sharp sand before soil is replaced

For roots to be retained undamaged no excavation, soil stripping or site grading should be carried out within the protected zone

If it is necessary for a service trench to be taken closer to the tree than recommended boring a hole for the service is acceptable Provided the borehole is small root damage should be minimal Boreholes should be kept as deep as possible Alternatively a narrow trench can be excavated passing directly towards the tree along a radius no closer than 1 m from the trunk Tunnel straight beneath the tree to a depth of no less than 750 mm. Provided the trench is kept as narrow as possible root severance will be minimal

12 a Services

The drainage and services will need to be placed in a trench that is set well outside the crown spread and rooting zone of the trees to be retained Should it be necessary to dig within the protected area at any time, the developers arboricultural consultant should be present to ensure only hand digging is undertaken

All se vices work on site will follow the National Joint Utilities Group s Guidclines for Planning Installation and Maintenance of Utility services in Proximity to trees

12 b No Dig Construction

Successful retention of trees even when adopting a no dig method particularly within the protected zone depends upon the condition of the trees which should be assessed by a qualified arboriculturist and on adherence to three simple rules

- Roots must not be severed
- Soil must not be compacted
- Oxygen must be able to diffuse into the soil beneath the engineered surface

Damage to trees can only be avoided if the construction embraces the above principles and (within the protected zone) is no more than 4m wide

Construction should incorporate two main components a geogrid and an aggregate sub-base Geogrid are high tensile strength synthetic grids designed to support roads on soft ground When placed on the geogrid, appropriate granular sub-base material penetrates the mesh, but is unable to pass through it forming positive interlock This interlock between aggregate and geogrid provides a reinforced platform and efficient load spread into the underlying ground A suitable geogrid/aggregate combination will prevent rutting of the ground beneath the construction

Granular sub-base material Type 1 As specified by the Department of Transport (Department of Transport, 1991 clause 803) is the recommended aggregate This has a relatively low fines content, which means that even when it is compacted it should be freely draining and will allow oxygen to diffuse into the soil

For site specific prescriptions and materials specifications advice may be sought from a qualified geotechnical or civil engineer

Tensar SS30 Geogrid is manufactured by Netlon Ltd, New Wellington Street Blackburn, BB2 4PJ

13 General Site Organisation

13 a Working Area

The working area of the site will need to allow sufficient space to permit all the building operations to be carried out This may include access for long or wide loads or heavy materials temporary site roads for these will not necessarily conform in size or position to the final road layout

Adequate height clearance often poses problems cranes tipping lorries piling rigs or other tall vehicles will all need adequate space for working

Space will also be needed for storage of building materials, and for site cabins It is essential that materials which are potentially toxic or damaging to trees not be stored in their vicinity Nothing should be stored within the crown spread or rooting zone of the trees on site

All deliveries to the site must be monitored, and their unloading supervised, to eliminate the risk of loads being placed outside the designated storage areas

13 b Phasing of Construction

Where possible the building of the units should be phased to keep the maximum working and storage areas available for as long as possible Phasing of construction may help to reduce the amount of materials being stored on site at any one time

In certain situations where development is very close to the minimum protection zone it may be necessary to dig and install the foundations from within the buildings footprint

Alternatively the use of piling may be considered to reduce the amount of ground disturbance in these very sensitive areas

14 a Removal of protective fencing

When construction works have been completed, and the site machinery has been removed the protective fencing can be taken down. This should be undertaken with care ensuring heavy machinery is not used

When works have been completed it may be necessary to carry out de compaction around some trees This should be carried out with a manually operated machine to avoid further disturbance

14 b Post construction remedial work to trees

Even though trees to be retained have been protected as recommended direct damage can still occur Alternatively it may not have been possible to detect the weakened condition of a tree prior to development and the change in the environment could cause indirect damage and accelerate decline of the tree

The development of any site should not be considered complete until all the trees have been re examined by a specialist with experience in the detection of early signs of declining tree health. Any remedial work necessary to ensure the health of the tree should be implemented before work is completed

At this late stage in the development, the safety of people and property in the vicinity of trees should be paramount when making decisions about retention and treatment of trees

14 c Completion meeting

On completion of all the works a site meeting should be arranged with the developer s Arboricultural Consultant and the Local Authority Tree Officer to discuss any further works that may be required.

15 General Guidelines

All work must be carried out to British Standard 3998 1989 by a competent Tree Surgeon with adequate Public Liability Insurance

This report has been prepared by Adrian Armitage and based on a visual inspection It was submitted with good intent, drawing on 20 years experience The consultant will not be responsible for events that happen after this time which were not apparent at the time

- Any defects seen by a contractor or the employer that were not apparent at the time should be brought to the consultants attention immediately

- The consultant in respect of the trees can accept no liability unless the recommendations of this report are carried out under his supervision and within his time scale

Terms and conditions payment is due within 28 days unless previously agreed

- The client means the person or the company who gave instructions

Payment should be made to Armitage (UK) Ltd

We trust this information meets your requirements, but should you require any further assistance please do not hesitate to contact the undersigned

Signed

A Armitage 14 September 2007

Adrian Armitage N C Hort N D Ht/Arb
Arboricultural Consultant

4 Lathes Drive
Alverthorpe
Wakefield
WF2 9TE

Tel 01924 386973
Fax 01924 290125
Mobile 07889 339252