THE WOODHOUSE, CHEADLE

TREE SURVEY AND CONSTRAINTS REPORT

Report Ref: TEP.1493.001 Rev A

for

Acorn Care Ltd
The Woodhouse
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Cheadle
Staffordshire
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August 2007

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Drawing One: Tree Constraints Plan: D1493.001 Rev A

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1.0 INTRODUCTION

1.1 TEP has been commissioned by Acorn Care to conduct an arboricultural survey of land located at The Woodhouse, Cheadle. This report details the arboricultural constraints of developing the aforementioned site.

1.2 The survey was carried out in July 2007 by means of inspection from ground level by a qualified arboriculturalist with several years experience. The inspection was restricted in cases where trees were ivy clad or surrounded by vegetation. Weather conditions during the survey were overcast.

1.3 Under BS 5837:2005 *Trees in Relation to Construction - Recommendations* the assessment of trees is made objectively. The tree categorisation method identifies the quality and value of the existing tree stock, allowing informed decisions to be made concerning development design layout.

1.4 The standard recognizes that there are many additional factors that will ultimately determine design layout. Information in this report is not meant to be interpreted rigidly and is presented in order to form a balanced judgement on tree retention and removal.

1.5 This report provides the results of the survey and includes the following:

i) A schedule of all trees located within, or in close proximity to, the proposed development site (Appendix One);
ii) An assessment, based on *BS 5837:2005,* of trees in terms of their potential value within any future development. On the basis of this assessment, trees have been categorised into one of four categories: A, B, C or R (Appendices One & Two);
iii) Advice on removal, retention and management of trees (Sections 4 & 5);
iv) An assessment, based on *BS 5837:2005,* of the requirement for protection of trees during the construction phase (Appendix One);
v) A Tree Constraints Plan detailing Root Protection Areas (RPAs) for all A, B, or C category trees (Ref: D1493.001).

1.6 The client supplied a topographical survey drawing detailing tree stem locations (ref: 7378_2 Rev A). The topographical drawing was used to record the position of existing trees and vegetation. Where the age distribution and species mix of tree cover was relatively uniform, trees were plotted as groups. For the purposes of this report, we have assumed that detail on the drawing is accurate.

1.7 A total of five individual trees (T1-T5) and two tree groups (G1-G2) were surveyed and mapped (refer to D1493.001). All arboricultural information recorded during the survey is presented at Appendix One.

1.8 Trees with a diameter of less than 50mm at breast height (1.5m) were not included in the survey as their value can be considered negligible.

4.3 The majority of trees surveyed were early-mature to mature displaying moderate form and condition. Species present include beech, field maple, English oak, sycamore and elm among others.

4.4 All the trees on site (with the exception of G2) have experienced some degree of ground disturbance within their Root Protection Area (RPA).

4.5 The potential implications of soil disturbance in close proximity to trees can vary dependent on its severity and extent. It can be associated with detrimental physiological responses, crown dieback and in extreme cases tree instability.

4.6 Factors such as age, condition and previous stresses (for example drought, physical wounding etc.) all contribute to a trees ability to tolerate damage. The effects of ground disturbance may only become apparent over subsequent years.

4.7 In order to better determine the nature of disturbance further investigation is required.

Proposed Development & Associated Implications

4.8 Table 1 lists tree retention value within the context of development. The categories are the result of an objective assessment based on *BS 5837:2005 Trees in Relation to Construction – Recommendations*.

4.9 Category A trees are of high value and should be incorporated into the development where possible. These include those that are particularly good examples of their species and/or those that are visually prominent within the landscape.

4.10 Category B trees are of moderate value and their retention should be considered during development design. These include trees that do not qualify as Category A due to minor remedial defects and/or those that collectively form distinct landscape features, thereby attracting a higher rating than they might as individuals.

4.11 Category C trees are trees of low value and can either be retained or removed according to development priorities.

4.12 Category R trees are unsuitable for long-term retention and should ideally be removed prior to the commencement of construction unless otherwise advised.

safeguarding the trees.

4.18 The RPAs shown on Drawing One are at this stage indicative only, whereby the placement of protective fencing will be decided at a latter stage to define a **Construction Exclusion Zone (CEZ)**. Details of the recommended protective heras fencing are shown in Drawing Two.

Underground Utility Issues

4.19 Guidelines set out in the National Joint Utilities Group publication *NJUG 10, Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees* should be consulted when routing services in close proximity to, or partially within, RPAs.

4.20 If utilities must enter the RPAs of retained trees, works should be detailed in an AMS.

Above Ground Constraints: Structural Stand-Off and Light Issues

4.21 A minimum structural stand-off will need to be considered for retained trees. The function of such a 'development stand-off' is to ensure adequate space is afforded for future growth, ultimate height and crown spread of retained trees, thus helping to promote the long-term survival of the trees. This follows best practice as stated in *Arboriculture Research Note 84:90* (Hodge and White, 1990, DoE Arboricultural Advisory & Information Service) and *BS 5837 (2005) Trees in Relation to Construction - Recommendations*.

4.22 Mature trees often cast dense shade. The issue of light attenuation in respect of trees retained within the development site will require due consideration in the design layout at the planning stage.

5.0 ARBORICULTURAL RECOMMENDATIONS

5.1 Table 2 details any further arboricultural works other than those recommended above.

Table 2 – Recommended arboricultural works

Tree or Group Reference Number	Works Required
T1	Soil Remediation
T2	Soil Remediation
T4	Soil Remediation
T5	Soil Remediation
G1	Soil Remediation

6.0 SUMMARY

6.1 Based on an objective assessment made in accordance with *BS 5837:2005 Trees in Relation to Construction – Recommendations*, there are two Category B trees, four Category C trees/groups and one Category R tree on the development site.

6.2 The tree categorisation method identifies the quality and value of the existing tree stock but it is not meant to be interpreted rigidly and is presented in order to form a balanced judgement on tree retention and removal.

6.3 All trees on site (with the exception of G2) have experienced some degree of recent ground disturbance within their Root Protection Area (RPA).

6.4 The degree of damage to the roots of tree T3 was undeterminable during the survey. If the damage is significant (e.g. severe root severance) it will greatly increase the likelihood of failure and the risk of injury and damage to property. Forgoing more detailed inspection it is considered prudent to categorise this tree as unsuitable for long term retention (Category R) until such time as further assessment can be made.

6.5 It is recommended that a detailed root inspection of T3 is carried out to determine the extent of damage and to identify suitable remediation.

6.6 Radial mulching and topsoil remediation is recommended for a number of trees and tree groups (see table two).

6.7 A programme of arboricultural works will need to be agreed with Staffordshire Moorlands District Council prior to commencement of development works.

6.8 Root Protection Areas (RPAs) will need to be identified as a definitive Construction Exclusion Zone (CEZ) in an Arboricultural Implication Assessment and Tree Protection Plan.

6.9 An Arboricultural Method Statement will be required where development and/or soil remediation is proposed within the RPA of retained trees.

6.10 Following site development, regular (annual or biannual) inspections of all retained trees should be undertaken by a qualified Arboricultural Consultant.

APPENDIX ONE

ARBORICULTURAL DATA SHEETS

TEP

Surveyor [illegible]
Date [illegible]
Town Cheadle
Site The Woodhouse
Dwg Ref [illegible]

Ref	Species	Height	Stem Dia.	No. of stems/Individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA	Management Recommendations	Estimated Remaining Contribution
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	Young Middle Age Mature veteran	Good Fair Poor		A B C R (1 2 3)	(m)	m²		Long Med'm Short
Trees																	
T1	Cut-leaved lime	15.0	550.0	1.0	6.0	6.0	6.0	6.0	3.0	Mature	Good	Good form, balanced crown. Basal epicormics typical to species. Ground disturbance and utility installation within 1m of stem.	B 1	6.6	136.8	Soil remediation - see section five of report ref. TEP 1493.003	Long
T2	Field maple	4.[illegible]	640.0	3.0	8.0	8.0	5.0	7.0	3.0	Mature	Good	Good form, bifurcate stem union at 1.5m. Site disturbance under canopy dripline. Ivy clad stem. High pruned.	B 1	6.4	128.7	Soil remediation - see section five of report ref. TEP 1493.003	Long
T3	English oak	18.0	910.0	1.0	8.0	9.0	8.0	9.0	4.0	Mature	Fair	Good form, balanced crown. Trenching and utility installation under canopy dripline. Reduced crown density and prolific epicormic growth in crown. Minor stem wounds.	A 2			Further investigation to determine the extent of root damage.	Short
T4	Elm	10.0	420.0	2.0	4.0	4.0	4.0	4.0	1.0	Middle Age	Good	Good form, balanced crown. Bifurcate stem union at 1m. Site disturbance/earth mounding to within 1m of stem. Base obscured by vegetation.	C 1	4.2	55.4	Soil remediation - see section five of report ref. TEP 1493.003	Long
T5	Sycamore	12.0	590.0	1.0	8.0	6.0	5.0	5.0	3.0	Middle Age	Fair	Reasonable form. Site disturbance/earth mounding to within 1m of stem. Small leaves, low vigour.	C 1	7.1	157.5	Soil remediation - see section five of report ref. TEP 1493.003	Long
Groups																	
G1	Filed maple sycamore elm	13.0								Mature	Fair	Majority of trees multi-stemmed with tight forks. Compaction/site storgae under canopy dripline. Site disturbance within 0.5m to south. High pruned.	C 1	To canopy edge		Soil remediation - see section five of report ref. TEP 1493.001	Medium
G2	Elm	12.0								Middle Age	Good	Several multistemmed hedgerow trees, likely to be old coppice regrowth	C 1	To canopy edge			Long

APPENDIX TWO

SURVEY METHOD

APPENDIX TWO: ARBORICULTURE SURVEY METHOD AND GLOSSARY

Arboricultural surveys are limited by being from ground level only. The nature of the soils on site is not assessed during the survey. The possibility of minor soil movement due to the root activity of the trees cannot be discounted; therefore, the advice of a structural engineer should be sought with regard to appropriate foundation depths.

Trees are dynamic living organisms with a constantly changing structure; even trees in good condition can suffer from damage or stress. Regular annual or bi-annual inspections by a qualified arboriculturalist can help to identify potential problems before they become acute.

The following features of each tree, group of trees or wood may have been recorded in the Arboricultural Data Sheets (Appendix One).

Trees are surveyed without reference to any proposed development. The implications of any development are discussed in the Arboricultural Implication Assessment.

Species The common name is given.

Diameter For single-stemmed trees the measurement is taken at 1.5 metres above ground in millimetres. For multi-stemmed trees the measurement is taken directly above the root flare in millimetres.

Crown Spread The N, E, S and W branch spreads are recorded in metres to provide a representative crown shape.

Tree Age

Young	Less than 1/3 life expectancy;
Middle Age	1/3 to 2/3 life expectancy;
Mature	Greater then 2/3 life expectancy;
Veteran	A tree recognised by features of a biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.

Condition
An assessment of tree vigour and vitality, which also can indicate likely susceptibility to the effects of development. This is not an evaluation of the tree's structural condition.

Comments
A brief evaluation and description of the tree with comments on the form, condition, health and significant defects that may be present.

Tree Quality Assessment
The tree quality assessments are based on Table 1 of BS 5837(2005): Trees in Relation to Construction - Recommendations. Four categories (A, B, C and R) are used to denote tree quality (A = High, B = Moderate, C = Low, R = Remove). Subcategories (1-3) denote the specific function value of the trees and the reasoning behind the categorisation (the subcategories may be used in combination)

A HIGH QUALITY (Green)

1 Mainly Arboricultural values

- Trees whose retention is considered most desirable (minimum 40 years life expectancy): high category.
- Vigorous healthy trees, good examples of their species, rare, unusual or essential components of groups healthy young trees of good form, potentially in harmony with proposed development.

2 Mainly Landscape values

- Trees or groups that provide definite screening or softening to the locality in relation to views.
- Trees of particular visual importance.

3 Mainly Cultural values

- Trees, groups or woodlands of particular historical, conservation, commemorative or other value (e.g., veteran trees or wood pasture).

DRAWING ONE

TREE CONSTRAINTS PLAN



KEY

Area of Proposed Development

T1 - Individual Trees

G1 - Groups of Trees

RPA - Root Protection Area

* Denotes tree not marked on supplied topo so indicated position is approximate

Retention Values

Based on BS 5837:2005
Trees in relation to construction
- Recommendations

Category A Trees
Trees of high quality and value

Category B Trees
Trees of moderate quality and value

Category C Trees
Trees of low quality and value

Category R Trees
Trees unsuitable for long term retention, their condition must be addressed forthwith

NOTE: see Arboricultural Data Sheets (Appendix One) for further information.

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Rev	Description	Drawn	Approved	Date
A	Amended development boundary	JS	PM	06/08

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Project

The Woodhouse, Cheadle

Title

Tree Constraints Plan

Drwg No: D1493.001

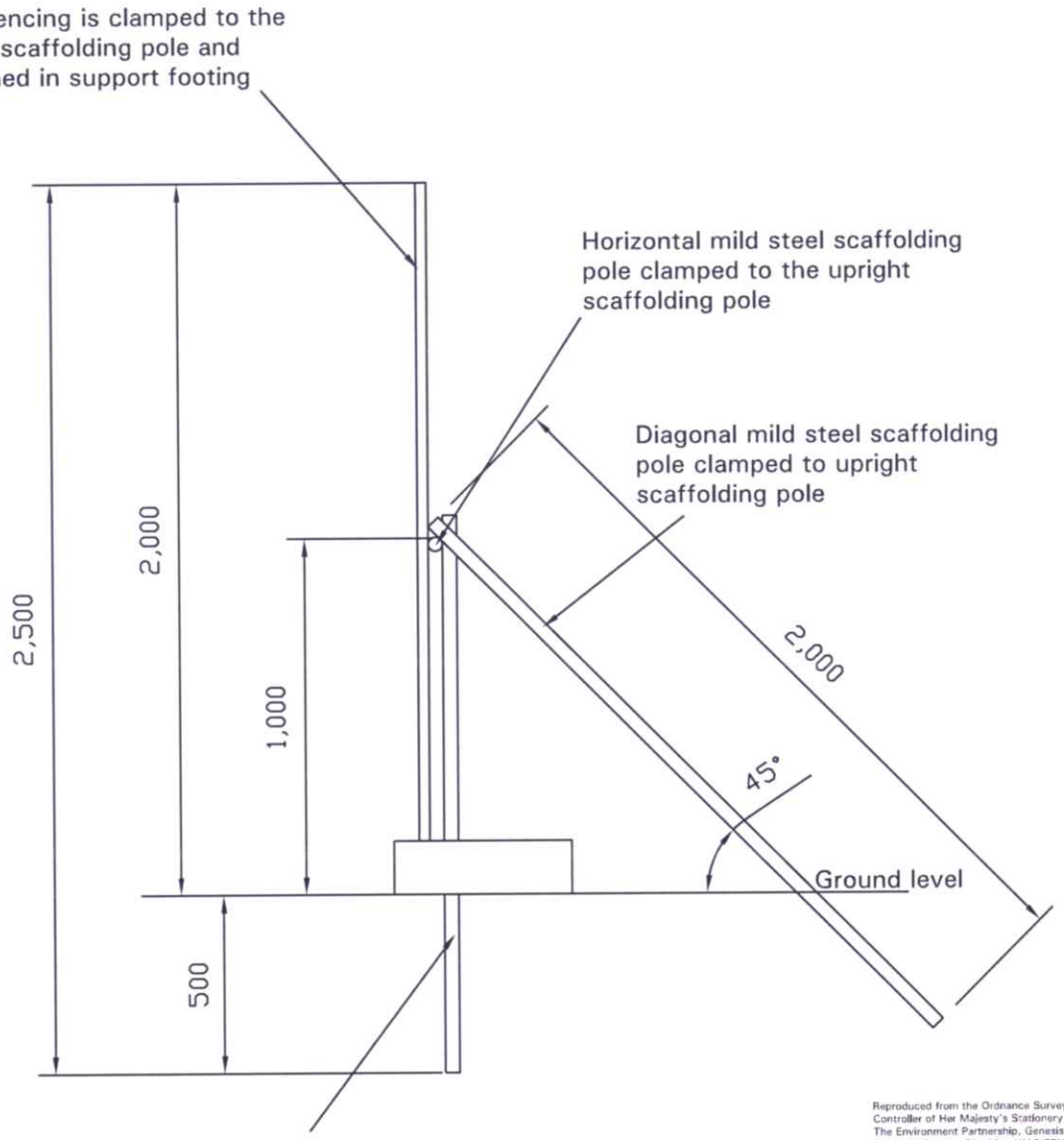
Scale	Date
1:500 @ A3	15/08/07

Drawn	Checked	Approved
JS	JH	PM

DRAWING TWO

RECOMMENDED PROTECTIVE FENCING

Temporary Supported Heras Fence Detail
Scale 1:20



Note:
Fencing to be Heras anticlimb panels (3.5m wide x2m high)



Tree Protection Notice is to be attached to the fencing 1.5m from the ground, facing out of the Construction Exclusion Zone located at regular intervals along the fence line.
The notice must be at least A4 in size

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Revision	Description	Amended by	Date
A	Scaffold support alterations, and Tree Protection Notice	TH	16/01/06

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Project

TEP Standard Detail

Title

Temporary Supported Heras Fence Detail for Tree Protection around Designated Root Protection Area/Construction Exclusion Zone.

Drwg No		
TEP.HERAS.002A		
Scale 1:20 @ A4		Date 02/10/03
Drawn by RJC	Checked by ID	Approved by DS