BS 5837:2012 Pre-Development Tree Condition Survey

At:
Former Goodfellows School Site
Spalding
Lincolnshire

Prepared for:

Greg Sadler
Linestyle
Alan House
Clumber Street
Nottingham
NG1 3ED

Prepared by

David Kolebuk – Principal Consultant

Dated – 11 May 2015

CONTENTS

1.0	Introduction	3
2.0	Instructions and Brief	3
3.0	Observations and comments	6

Appendix 1 Tree Survey, Tree Location Plan with Root Protection Area Plan

Appendix 2 Trees in Relation to Construction – Recommendations BS 5837:2012 Cascade chart for tree quality assessment

Appendix 3 David Kolebuk CV

1.0 Introduction

1.1 I am David Kolebuk, Managing Director of Amber Arboricultural Consultancy (AAC). I hold The Arboricultural Associations Technicians Certificate in Arboriculture, Lantra Professional Tree Inspectors Certificate and NVQ Level 4 in Management and I am currently undertaking the recently devised Level 6 Professional Diploma in Arboriculture. I have been involved in Arboriculture for over 25 years. A full list of qualification, membership of professional bodies and details of CPD is given in Appendix 3.

2.0 Instructions and Brief

2.1 The brief was to undertake a pre-development tree survey in accordance with British Standard 5837:2012 'Trees in relation to design, demolition and construction: Recommendations.' This was in accordance with a proposed application for planning permission to develop the former Goodfellows school site in Spalding Lincolnshire.

2.2 Plans supplied by Greg Sadler of Linestyle were:

2.2.1 *Topographical Survey*

2.3 The site was surveyed by David Kolebuk on the 4 November 2014 and a detailed inventory of the trees undertaken. The following survey is based upon the findings of that visit and the conditions found on the day. This survey provides quantitative data on tree species, height, stem diameter, height and direction of first significant branch, crown spread, age class and a brief qualitative assessment on tree condition and future potential. A detailed inspection of individual trees with respect to decay, defects and hazard is also included. Trees found to be in a structurally dangerous condition are identified.

2.4 With reference to BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations', an assessment of the tree resource has been undertaken following the guidance in BS 5837:2012 and a calculation has been made for the theoretical Root Protection Areas (RPA) as shown in the survey schedule in metres.

2.5 This survey should be regarded as an initial appraisal and observations, assessments or recommendations relating to tree protection zones, remedial tree works, protective fencing, foundation design, material specification or project design are beyond the scope of this survey.

2.6 The location of the trees is shown on the attached drawing, Appendix 1

2.7 Information recorded in the survey includes:

Sequential Survey Reference Number – Recorded on the survey plan. In this instance the same numbers as the previous survey have been used for individual trees and groups.

Species – The species identification is based on visual observations and the common English name of what the tree appeared to be is listed first. The botanical name will appear after in brackets.

Tree Heights – These are estimated in meters. Estimated mature heights may be given in brackets.

Stem Diameters – Measured by and recorded in millimetres to the nearest 10mm. In the case of groups of trees the maximum diameter is recorded.

Crown Radius – Recorded in meters along each cardinal point. In the case of groups the maximum peripheral spread is recorded.

Existing Height Above Ground Level of:

1) First significant branch and direction of growth (e.g. 2.5 – W)
2) Canopy height

To inform ground clearance, crown stem/ratio and shading.

Life Stage – Recorded as prescribed in BS 5837:2012 (e.g. young, semi mature, early mature, mature, over mature);

Condition – Particularly of structural and/or physiological condition (e.g. the presence of any decay and physical defect, and/or preliminary management recommendations.

In the case of groups and/or woodlands the condition stated will be typical of the feature. Groups and woodland will be depicted by green hatch and the RPA is included in the total area shown. RPA is measured by taking an average measurement of stem diameter.

Life Expectancy – estimated; i.e. Less than 10 years, 10-20 years, 20-40 years, more than 40 years.

Retention Category – Is given as follows and corresponds with Table 1 of BS 5837:2102.

A – Trees of high quality and value, including visual amenity value (sub categories 1, 2, 3). It is usual for such trees to be retained unless the planning 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 (sub categories 1, 2, 3)

U – Trees 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.

Sub categories – trees in categories A to C will qualify under one or more of three sub-categories (1, 2, 3). Sub categories 1, 2 and 3 are intended to reflect arboricultural and landscape qualities, and cultural values, respectively.

The tree survey schedule will list which sub category applies. It is intended that each sub category has equal weight such that, for example, an A1 tree has the same retention priority as an A2 tree. Some trees could qualify under more than one criterion

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 as per section 4.6 of BS 5837:2012.

For single stemmed trees, the RPA should be calculated as an area equivalent to a circle with a radius 12 times the stem diameter. For trees with more than one stem, one of the two calculation methods should be used. In all cases, the stem diameter (s) should measure in accordance with Annex C and the RPA should be determined from Annex D (shown in Appendix). The calculated RPA for each tree should be capped at 707m2.

(a) For trees with two to five stems, the combined stem diameter should be calculated as follows:

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

(b) For trees with more than five stems (not illustrated in Annex c), the combined stem

diameter should be calculated as follows:

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

The RPA for each tree will initially be plotted as a circle on the base of the stem. Where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area will be produced. Modifications to the shape of the RPA will reflect a soundly based arboricultural assessment of likely root disruption.

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

a) the morphology and disposition of the roots, when influenced by past or existing sit conditions (e.g. the presence of roads, structures and underground apparatus);

b) topography and drainage;

c) the soil type and structure;

d) the likely tolerance of the tree to root disturbance or damage, based on factors such as species, age, condition and past management.

This will be shown on the tree constraints plan with the RPA shown as an area of orange hatch.

3.0 Observations and comments

3.1 The site

3.1.2 The site is a former educational facility situated along the B1172. To the south of the site is the main building whilst to the north the former playing field Topography is flat

3.2 The Trees

3.2.1 The site contains numerous trees, mainly mature specimens and they are confined to site boundaries. All are broadleaved species and all in all help add to the visual amenity of the site The frontage trees offer the greatest assets in arboricultural terms as they are an essential part of the street scene with other trees within the site playing a somewhat more peripheral role. However, all trees have been subject to heavy pruning and topping in the past, especially the ones adjacent to the railway. This management has resulted in the 'category C' being applied more often than not

3.2.2 At the time of the survey no definitive layout was shown or any detailed access proposals agreed. In arboricultural terms the site is suitable for development but but may involve the removal of trees within the site which are of lesser importance in terms of visual amenity and easily replaced within a comprehensive landscape scheme which should include the planting of several 14-16cm girth specimens in appropriate and prominent positions.

3.2.3 An Arboricultural Impact Assessment and Method Statements will be prepared in the future to accompany any application for full planning permission.

Appendix 1

Tree survey, Tree Location Plan and Root Protection Area Plan
(Indicative only not to scale)

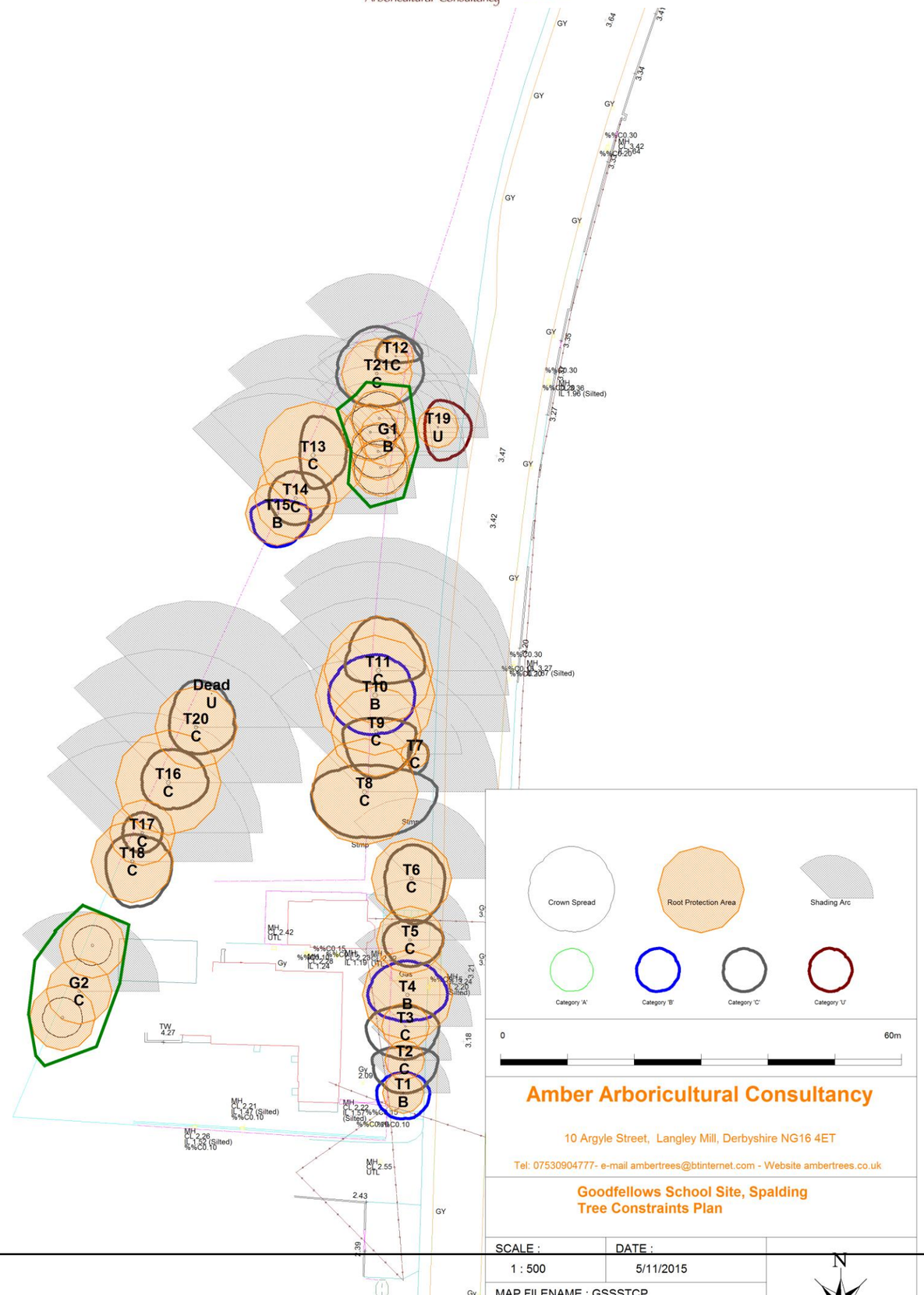
Amber Arboricultural Consultancy

Tree survey schedule – Goodfellows School Site, Spalding, Lincolnshire **Undertaken by: David Kolebuk 7 May 20**

Tree & Tag No	Species	*Scientific name*	Ht (M)	No of stems	Stem Dia (MM)	Height above ground level of 1st sig branch	Crown HT (m)	Branch Spread (M)				Life stage	Structural condition	Physiological condition	Comment Preliminary Recs	Est rem cont (yrs)	BS category	RPA (radius) (M) & RPA Area M2
								N	E	S	W							
T1	Pissards Plum	*atropurpurea*	7	1	250	1.5s	1	3	4	4	4	Mature	Fair	Fair		yrs	B	3.0 28
T2	Cherry	*Prunus sp*	7	1	240	1.5s	2	2	5	5	5	Mature	Fair	Fair	Large wound on main stem at 1.5m. Sparse crown.	10 to 20 yrs	C	3.0 28
T3	Cherry	*Prunus sp.*	10	1	290	2n	2	3	5	5	6	Mature	Fair	Fair	Numerous wounds on main stem. Gum exudes from stem and branches	10 to 20 yrs	C	3.60 41
T4	Sorbus 'Lutescens'	*Sorbus aria ' Lutescens'*	11	1	550	2n	3	5	6	4	6	Mature	Good	Good		10 to 20 yrs	B	6.60 137
T5	Cherry	*Prunus sp.*	9	2	320; 260	2w	3	3	5	4	4	Mature	Fair	Fair		10 to 20 yrs	C	4.80 72
T6	Wild Cherry	*Prunus avium*	12	2	370; 320	4w	2	5	5	7	4	Mature	Fair	Fair	Included bark union at 1m. Topped at 10m	10 to 20 yrs	C	5.70 142
T7	Sorbus 'Lutescens'	*Sorbus aria ' Lutescens'*	7	1	170	2n	1	2	2	3	1	Semi-mature	Fair	Fair	Suppressed tree of poor form	10 to 20 yrs	C	2.10 14
T8	English Elm	*Ulmus procera*	20	1	650	4w	1	4	11	7	8	Mature	Fair	Fair	Topped at 17m with some decay columns forming	10 to 20 yrs	C	7.80 191
T9	Common Ash	*Fraxinus excelsior*	20	1	550	6s	7	2	6	7	5	Mature	Fair	Fair	Heavily pruned western side of crown. die back in upper crown	10 to 20 yrs	C	6.60 137
T10	Common Ash	*Fraxinus excelsior*	20	1	730	4w	4	6	6	6	7	Mature	Fair	Fair	Some storm damage to upper crown	10 to 20 yrs	B	8.70 238
T11	Common ash	*Fraxinus excelsior*	20	3	420; 400; 420	6n	8	7	2	5	7	Mature	Fair	Fair		10 to 20 yrs	C	8.40 222

Tree & Tag No	Species	*Scientific name*	Ht (M)	No of stems	Stem Dia (MM)	Height above ground level of 1st sig branch	Crown HT (m)	Branch Spread (M)				Life stage	Structural condition	Physiological condition	Comment Preliminary Recs	Est rem cont (yrs)	BS category	RPA (radius) (M) & RPA Area M2
								N	E	S	W							
T12	Mountain Ash	Sorbus aucuparia	5	1	220	2w	2	3	4	1	3	Mature	Poor	Poor	Suppressed tree of poor form	10 to 20 yrs	C1	2.70 23
T13	Common Ash	Fraxinus excelsior	18	1	650	2s	3	6	5	5	2	Mature	Fair	Fair	Topped at 15m and heavily pruned back from railway	10 to 20 yrs	C1	7.80 191
T14	Common Ash	Fraxinus excelsior	18	1	500	2e	3	4	5	4	4	Mature	Fair	Fair	Topped at 15m and heavily pruned back from railway	10 to 20 yrs	C1	6.0 113
T15	Common Ash	Fraxinus excelsior	18	1	390	6s	2	2	5	5	4	Mature	Good	Good	Tree growing on railway land	10 to 20 yrs	B1	4.80 72
T16	Common Ash	Fraxinus excelsior	20	1	640	2e	4	5	6	4	4	Mature	Fair	Fair	Topped at 15m and heavily pruned back from railway	10 to 20 yrs	C1	7.80 191
T17	Wild Cherry	Prunus avium	18	1	400	1.5s	3	3	3	3	3	Mature	Fair	Fair	Narrow crown heavily pruned back from railway	10 to 20 yrs	C1	4.80 72
T18	Silver Birch	Betula pendula	18	1	500	1s	4	4	6	7	4	Mature	Fair	Good	Topped at 15m with decay columns forming. heavily pruned back from railway	10 to 20 yrs	C1	6.0 113
T19	Wild Cherry	Prunus avium	7	1	250	1s	2	4	5	5	2	Mature	Poor	Fair	Severely decayed stem	<10	U	3.0 28
T20	Common ash	Fraxinus excelsior	19	1	500	3e	4	7	6	4	4	Mature	Fair	Fair	Topped at 15m and heavily pruned back from railway	10 t0o 20 yrs	C1	6.0 113
T21	Common ash	Fraxinus excelsior	15	1	430	4s	2	7	7	5	6	Mature	Fair	Fair	Topped at 12m	10 to 20 yrs	C1	5.10 81
G1			12-15		Av 350							Mature	Fair	Fair	Group of 3 birch 2ash and 1 cherry. Ash topped at 15m. Some die back in crown of most western birch	10 to 20 yrs	B-C1	4.20 55
G2			8-18		Av 400										Estimated data. No access to trees. Group of 3 trees, birch and 2 cherries. Southern most cherry in decline. heavily pruned back from railway	10 to 20 yrs	C1	4.80 72

Amber
Arboricultural Consultancy



Amber Arboricultural Consultancy

10 Argyle Street, Langley Mill, Derbyshire NG16 4ET

Tel: 07530904777- e-mail ambertrees@btinternet.com - Website ambertrees.co.uk

Goodfellows School Site, Spalding
Tree Constraints Plan

SCALE :	DATE :
1 : 500	5/11/2015
MAP FILENAME : GSSSTCP	

Appendix 2

British Standard Trees in Relation to Construction – Recommendations BS 5837:2012
Cascade chart for tree quality tree assessment

Amber
Arboricultural Consultancy

TREES FOR REMOVAL

Category and Definition	Criteria	Identification on Plan
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 U Category 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) e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality. NOTE: *Category U trees can have existing or potential conservation value which might be desirable to preserve; see section 4.7.5*	**DARK RED** RGB code127-000-000

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 **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 essential components of groups, or of 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-pastures)	**LIGHT GREEN** RGB code 000-255-000
Category B **Those of moderate quality**: with an estimated remaining life expectancy of at least 20 years	Trees that might be included in 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 area	Trees with clearly identifiable conservation or other cultural benefits	**MID BLUE** RGB code 000-000-255
Category C **Those 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 the 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 no material conservation or other cultural value	**GREY** RGB code 091-091-091

BS 5837:2012 Table 1 Cascade chart for tree quality assessment

Appendix 3

David Kolebuk CV

David Kolebuk

Curriculum Vitae

I have been involved in arboriculture for over 25 years and in that time have gained a vast amount of knowledge and experience in all aspects of the industry. I have been employed in local Government for the majority of my career thus far and this has given me a sound footing on which to develop my skills in a consultancy role. See the list below for qualifications and continual professional development as well as a resume of my career path to date.

Formal Qualifications	**Date completed**
AA Technicians Certificate in Arboriculture.	2001
NVQ Level 4 in Management	2009
Lantra Professional Tree Inspection Certificate.	2007
RFS Certificate in Arboriculture	1995
City & Guilds Arboriculture	1988
City & Guilds Horticulture	1987

Certificates of Competence	**Date completed**
IPAF Mobile Elevated Work Platform	2009
CS39 Use of a Chainsaw from a Rope and Harness	2008
CS38 Climb a Tree Conduct Aerial Rescue	2008
CS30.1 CS30.2 & CS31 Chainsaw Related Operations	2008
PA1 PA6A Use of Pesticides	1991

Arboricultural Association and other courses	**Date completed**
Arboricultural Consultancy	2010
Getting To Grips With Subsidence	2009
Risk Assessment for Commercial Arboriculture	2008
QTRA	2007

Professional Memberships	**Date joined**
Derbyshire & Nottinghamshire Chamber of Commerce	2010
International Society of Arboriculture	2007
Arboricultural Association Technician Member	1994

Employment History

Sheffield City Council Street Force
March 07- 11
Operations Manager - Arboriculture

Mansfield District Council
April 06 - March 07
Arboricultural Officer

North Kesteven District Council
January 03 - April 06
Tree Officer

Birmingham City Council
May 00 - Jan 03
Tree Officer (Planning)

Lichfield District Council
April 99 - May 00
Countryside Assistant

Derby City Council
April 97 - April 99
TPO Officer

Derbyshire County Council
November 94 - April 97
Technical Assistant in the Landscape Section

Derbyshire County Council & Derby City Council
May 86 - November 94.
Arborist

Document Completed 11 May 2015

By: David Kolebuk

Signed

