

10112

Carlton Road

Barnsley

– BS 5837 (2012) Tree Survey

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BS 5837 (2012) Tree Survey**

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Executive Summary

On behalf of Keepmoat Homes Ltd, Ecus Ltd. have carried out a tree survey to BS 5837 (2012) "*Trees in relation to design, demolition and construction- Recommendations*" in July 2017 at Carlton Road, Barnsley.

The survey records all trees within the site and all those which may be affected by any development proposals within the site boundary, recording a number of parameters including species, crown spread and Root Protection Area (RPA).

Throughout this report 'RPA' is used to refer to 'Root Protection Area'. The RPA of any given tree is the area of ground around that tree which should not be disturbed by excavation, compaction, changes in level or other construction/demolition operations. The extent of the RPA is calculated in accordance with BS5837 (2012), and is an important part of the methodologies described in this report.

The survey recorded ten tree groups and 59 individual trees.

This report briefly describes the how the tree survey can inform the next stage of the planning process and which other documents may be required.

This report also makes further recommendations for any measures to mitigate or compensate the loss of trees within the site and the likely impact on the site and the local landscape.

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1. Introduction

- 1.1.1 Ecus Limited were commissioned by Keepmoat Homes Ltd to undertake a tree survey of the site Carlton Road, Barnsley. The site location is shown on Figure 1 below.
- 1.1.2 The survey was carried out in accordance with BS 5837 (2012) “*Trees in relation to design, demolition and construction- Recommendations*”. This report sets out the findings of the survey and recommendations have been made for preliminary tree work that may be required.



Figure 1 – Location Plan

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2. Tree Survey Methodology

2.1 Site survey

- 2.1.1 Ecus carried out the tree survey in July 2017 when the trees were in leaf. The tree survey was a ground based visual inspection carried out by a suitably qualified arboriculturist. The trees were not tagged as part of the survey.
- 2.1.2 The inspection of the trees, the site and the immediate surrounding area was carried out by Peter Simpson, MArborA.
- 2.1.2 The following characteristics were recorded:
- Species
 - Stem diameter at 1.5m above ground level (mm).
 - Estimated height (m)
 - Approximate crown spread (m) as North, South, East and West measurements.
 - An estimate of the number of years that the tree is likely to remain suitable for retention.
 - <10 = less than 10 years
 - 10+ = 10-20 years
 - 20+ = 20-40 years
 - 40+ = more than 40 years
 - Age class
 - YNG = Young and recently established trees
 - SM = Semi-mature trees age less than 1/3 life expectancy
 - EM = Middle age trees 1/3 – 2/3 life expectancy
 - M = Mature trees over 2/3 life expectancy
 - OM = Over mature – declining or moribund trees of low vigour
 - Condition category in accordance with BS5837: Trees in relation to the design, *demolition and construction recommendations (2012)*. The categories listed are defined as per BS5837:2012 and briefly are:
 - 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
 - A = Those of high quality and value- best trees with a long expected safe life
 - B = Those of moderate quality and value
 - C = Those of low quality and value and trees less than 15cm diameter
 - Value subcategories in accordance with *BS 5837:2012*. The subcategories listed are defined as per BS5837:2012 and briefly are:
 - 1 = Mainly arboricultural values
 - 2 = Mainly landscape values
 - 3 = Mainly cultural values, including conservation
 - General notes about physiological and structural condition and any management recommendations.

- 2.1.3 The survey recorded all trees on site with a stem diameter of 75mm or more at 1.5m height and includes all trees outside the site boundary which may be affected by any future development of the site, either by their crown overhanging the site or their Root Protection Area potentially extending into the site.
- 2.1.4 A full topographic survey of the site was provided; this was used as the basis for producing the tree survey plan. The topographic survey did not pick up all tree locations within or outside the development site and therefore two tree locations were estimated.
- 2.1.5 Where densely wooded areas are not expected to be affected by any development proposals (e.g. woods located outside the site boundary) the mapping of trees was limited to significant trees located along the woodland perimeter.

2.2 Consultation with Local Authority

- 2.2.1 The survey included identification of any existing designations affecting trees on site such as Tree Preservation Orders and Conservation Area status by checking the map information available on Barnsley MBC website www.barnsley.gov.uk/services/parks-and-open-spaces/tree-preservation-orders

2.3 Calculation of Root Protection Area (RPA)

- 2.3.1 Below ground constraints to development are represented by the root plate around a tree which needs protecting in order for the tree to be incorporated into a proposed scheme, without adverse harm to the tree or structural integrity of any proposed foundation structures. This area is illustrated by the Root Protection Area (RPA) and is calculated according to the formulae set out in BS5837:2012 clause 4.6.1.
- 2.3.2 Any deviation in the RPA from the original circular plot should take account of physical site conditions that influence the disposition of tree roots, e.g. streams, building foundations and retaining walls.

3. Tree Survey Results

3.1 General Site Description

- 3.1.1 The majority of the site is made up of the site of the now demolished Springwell School and its surrounding fields and road infrastructure. The south of the site is arable land, currently under crop.
- 3.1.2 The trees surveyed during the site visit are located across the site, with the majority around the boundaries of the former school site.
- 3.1.3 The south of the site is crossed by a Public Right of Way (PRoW) which links to a network of PRoWs to the east of the site. The northern boundary of the site contains an unadopted highway along which passes another PRoW. This road also forms the access to the new Springwell Special Academy.
- 3.1.4 Visibility of the site is limited to users of the footpath network, and visitors to the Springwell Academy site. A number of houses along the western boundary over look the site, but the view is generally blocked by the trees in this area.

3.2 Chalara dieback of ash (*Hymenoscyphus fraxineus*)

- 3.2.1 A large number of trees on site are common ash, in various stages of their life cycle.
- 3.2.2 Chalara dieback of ash, also known as Chalara or ash dieback, is a disease of ash trees caused by a fungus called *Hymenoscyphus fraxineus*.
- 3.2.3 Chalara causes leaf loss, crown dieback and bark lesions in affected trees. Once a tree is infected the disease is usually fatal, either directly or indirectly by weakening the tree to the point where it succumbs more readily to attacks by other pests or pathogens, especially Armillaria fungi, or honey fungus.
- 3.2.4 It has caused widespread damage to ash populations in continental Europe, where experience indicates that it can kill young ash trees quite quickly, while older trees can resist it for some time until prolonged exposure, or another pest or pathogen attacking them in their weakened state, eventually causes them to succumb.
- 3.2.5 The survey carried onsite assumed that the ash trees are and will remain unaffected by Chalara. Categorisation and lifespan have been selected as defined in the current BS5837 standards. Should trees onsite become infected with Chalara, then a full health and safety survey of the trees would be required to determine the significance of the impact and a suitable management regime of infected trees.
- 3.2.6 Over reliance on one species of tree severely impacts on a site's resilience to pests and diseases and climate change. During design and planning efforts should be made to keep a broad range of species onsite.

3.3 Results of Tree Survey

- 3.3.1 The Tree Survey Schedule in Table 1, Appendix 1 describes the results of the tree survey and includes preliminary management recommendations. The table should be read in conjunction with Figure 2 Tree Survey and Tree Constraints Plan. This drawing illustrates the location of the trees surveyed, the extent of their canopies as well as the Root Protection Areas (RPA) of each tree and tree group.
- 3.3.2 Ten tree groups and 59 individual trees have been recorded during the survey. A full

survey to BS 5837 (2012) was carried out for those trees, including the recording of the stem diameter to determine the Root Protection Area (RPA) of the trees.

- 3.3.3 The commonest tree species on site is ash (*Fraxinus excelsior*). The former school site boundaries have been planted with a typical utility native species mix approximately twenty years ago. To the east of the site is a block of good quality, well structured native woodland. The grassed mown area to the south of St Helens Boulevard contains a number of good quality specimen trees, which are contributing to the local tree scene. The general area contains a large number of trees and woodland features, and apart from the woodland blocks G22 and G66 no trees stand out as particular significance. A number of trees have been categorised as B, mainly for their contribution to the site as collectives, or they are good specimens with a long lifespan.
- 3.3.4 The utility plantings around the boundary of the school site have begun to suffer from a lack of silvicultural intervention. Close planting, and lack of subsequent thinning has lead to stagnation of the stands, and a number of the edge trees are becoming unbalanced as they have chased the light into the open areas. G48 is almost exclusively aspen (*Populus tremula*) which is suckering heavily and has led to an extremely dense stand of trees. As noted in section 3.2 the site contains a very large number of ash trees, this severely limits the resilience of the site to the ongoing issues around tree health.

3.4 Tree Designations

- 3.4.1 A check of Barnsley MBC website (www.barnsley.gov.uk/services/parks-and-open-spaces/tree-preservation-orders) on the 11th July 2017 showed that no trees on site are covered by Tree Preservation Orders, or fall within a conservation area.

4. Recommendations

4.1 Requirements for Immediate Tree Works

- 4.1.1 There are some trees requiring immediate attention for reasons of health and safety.
- 4.1.2 Only one tree currently poses a risk owing to its location in an area with moderate public footfall. Norway maple T1 has a serious occlusion at 2m on the main stem with associated bleeding. This could lead to crown failure in strong winds, and its removal is recommended within one year. Other trees on site would only become a hazard if they are to be retained within any proposed development. They are clearly marked as category U in table one.
- 4.1.3 The tree works should be specified by an arboriculturist in a schedule of works and carried out by a suitable qualified and experienced tree surgeon.

4.2 Requirements for Development

- 4.2.1 This tree survey provides a base on which the architect or land-owner can design a layout, whilst being aware that for a tree to be retained, its Root Protection Area must be retained intact, and have no cut or fill operations proposed within it.
- 4.2.2 It may be possible for development proposals to intrude slightly into the Root Protection Areas, if the intrusion is insignificant, or made insignificant by a specific methodology described in a Method Statement.
- 4.2.3 Some trees may need to be removed to create access for construction or demolition operations. Some trees may require some tree surgery in order to best prepare them for successful retention within the construction site, for example, canopy reduction may be the right solution for an individual tree growing very close to a building proposed for demolition. Such preparatory tree surgery is referred to as 'Access Facilitation Pruning' in BS5837:2012, and, if required, specific details should be included in a Method Statement or separate Works Specification.
- 4.2.4 Some trees may need to be removed to physically accommodate the development proposals. Some trees may need to be removed in order to avoid posing a conflict with the management and users of the redeveloped site.
- 4.2.5 It is possible to build hard-surfacing within the Root Protection Areas, provided a no-dig construction is used. This should be described in a Method Statement.
- 4.2.6 If the site is to be developed and some trees removed, provisions should be made for the replacement planting of trees within the site, prioritised in areas that offer opportunities to increase site screening and/or internal amenity to help compensate for tree loss. Spatial constraints for areas in which trees are to be planted should be considered within the species selection process. Generally, for larger sites these opportunities should be identified within a landscape scheme, complete with tree planting schedule and five year aftercare program to aid establishment.
- 4.2.7 Norway maple variants T8 to T12 have been planted as part of the development of the Springwell Academy site. All are in very poor condition, and during any proposed development it would be an ideal opportunity to replace them to improve the visual appeal of St Helens Boulevard. By definition, a Boulevard is a tree lined street, so further plantings along this road could be incorporated into any potential development.
- 4.2.8 The next stage of planning process is to prepare the following associated documents:

-
- Development layout plans
 - Tree protection plans
 - Arboricultural Impact Assessment/Arboricultural Method Statement
 - Access Facilitation Pruning Works Specification (if required).

4.2.9 It is recommended that any trees that require removal or significant canopy works, should be checked in advance of works by an ecologist to ensure there is no possibility of any disturbance to nesting birds or roosting bats.

Appendix 1 – Tables

Table 1 – BS5837 Tree Survey Schedule

Key:	Measurements	Age – Class	Overall Condition	BS 5837 2005 : Cascade Chart for Quality Assessment/Retention Category	Symbols:
	MS – Multi-stemmed	YNG – Young Mature	G – Good	A – High	< = less than
	Ht - Height in metres	SM – Semi-mature	F – Fair	B – Moderate	~ = approximately
	Stem – Stem Diameter at 1.5m in mm	EM – Early mature	P – Poor	C – Low	> = greater than
	Crown – Crown spread in metres	M – Mature	D - Dead	U – Unsuitable for retention	
	TD - Trunk division (height in metres)	OM – Over mature		Sub-categories: 1 = mainly arboricultural values 2 = mainly landscape values 3 = mainly cultural values.	# = estimated because the tree was inaccessible
		Est Yrs – estimate of years remaining (40+ years; 20+ years; 10+ years, <10 years)			

RPA = Root protection area (equivalent to a circle with a radius 12 x the stem diameter of single stem trees or 12 x the notional stem diameter of multi stemmed trees as per BS 5837:2012 clause 4.6). This will be capped to 707m² for trees with a stem diameter larger than 1.25m.

Tree No	Species	Ht (m)	Stem Diam @ 1.5m (cm)	Canopy Spread (m) N- E- S- W	Height of Crown Clearance	Age Class	Est yrs	Overall Condition	Comments	Management Recommendations	BS 5837 Category	RPA Radius (m)	RPA (m ²)
T1	Norway Maple (<i>Acer platanoides</i>)	9	35	2 6 5 5	1.8	EM	20+	Poor	Occluded union at 2m, weep coming from base of occlusion and at ground level on south.	Remove	U	4.20	55.42
T2	Norway Maple (<i>Acer platanoides</i>)	10	44	6 6 6 6	1.5	EM	40+	Fair	Girdling root on north side	-	B2	5.28	87.58
T3	Swedish whitebeam (<i>Sorbus intermedia</i>)	9	34	5 4 4 5	1.8	EM	40+	Fair	Minor mower damage on east side	-	B2	4.08	52.30
T4	Cockspur thorn (<i>Crataegus crus-galli</i>)	6	23	3 3 3 3	2	M	40+	Fair	Ivy	-	B2	2.76	23.93
T5	Silver birch (<i>Betula pendula</i>)	10	26	4 6 4 0	1.8	EM	40+	Fair	Unbalanced due to removal of tree to the west	-	B2	3.12	30.58

Tree No	Species	Ht (m)	Stem Diam @ 1.5m (cm)	Canopy Spread (m) N- E- S- W				Height of Crown Clearance	Age Class	Est yrs	Overall Condition	Comments	Management Recommendations	BS 5837 Category	RPA Radius (m)	RPA (m ²)
T6	Cockspur thorn (<i>Crataegus crus-galli</i>)	6	25	2	1	3	4	1.5	M	40+	Fair	Crownlift 2.5m over footpath	-	B2	3.00	28.27
T7	Cockspur thorn (<i>Crataegus crus-galli</i>)	6	26	1.5	3	3	1	1.5	M	40+	Fair	Remove competing willow branches from crown of T6. Crownlift 2.5/5.5m over footpath/roadway	-	B2	3.12	30.58
T8	Norway Maple (<i>Acer platanoides</i> var.)	4	6	1	1	1	1	2	YNG	<10	Poor	Strimmer damage, bark damage on east side	Remove and replace	U	0.72	1.63
T9	Norway Maple (<i>Acer platanoides</i> var.)	4	6	1	1	1	1	2	YNG	<10	Poor	Strimmer damage	Remove and replace	U	0.72	1.63
T10	Norway Maple (<i>Acer platanoides</i> var.)	4	7	1	1	1	1	2	YNG	10+	Fair	Strimmer damage	-	C2	0.84	2.22
T11	Norway Maple (<i>Acer platanoides</i> var.)	4	7	1	1	1	1	2	YNG	<10	Poor	Strimmer damage, moribund	Remove and replace	U	0.84	2.22
T12	Norway Maple (<i>Acer platanoides</i> var.)	4	7	1	1	1	1	2	YNG	<10	Poor	Dead	Remove and replace	U	0.84	2.22
T13	Rowan (<i>Sorbus aucuparia</i>)	7	32	4	4	4	3	1	M	40+	Fair	Girdling root on north side, lean to east, minor mower damage	-	B2	3.84	46.32
T14	Common lime (<i>Tilia x europaea</i>)	9	38	5	5	5	5	0	EM	40+	Good	-	-	B1	4.56	65.33
T15	Bird cherry (<i>Prunus padus</i>)	6	7.5	3	3	3	3	0	EM	40+	Fair	Coppicing/sucker mass of stems <7.5cm	-	C2	0.90	2.54

Tree No	Species	Ht (m)	Stem Diam @ 1.5m (cm)	Canopy Spread (m) N- E- S- W				Height of Crown Clearance	Age Class	Est yrs	Overall Condition	Comments	Management Recommendations	BS 5837 Category	RPA Radius (m)	RPA (m ²)
T16	Wild Cherry (<i>Prunus avium</i>)	10	25	3	1	1	1	2	EM	40+	Fair	Part of woodland	-	C2	3.00	28.27
T17	Norway maple (<i>Acer platanoides</i>)	10	20,15,8	4	1	1	1	1	EM	40+	Fair	Part of woodland	-	C2	3.12	30.58
T18	Norway maple (<i>Acer platanoides</i>)	10	30,25,20	5	2	1	1	1	EM	40+	Fair	Part of woodland	-	C2	5.28	87.58
T19	Oak (<i>Quercus robur</i>)	10	22	1	1	1	4	2	EM	40+	Fair	Part of woodland	-	B2	2.64	21.90
T20	Oak (<i>Quercus robur</i>)	10	31	3	1	1	3	2	EM	40+	Fair	Part of woodland, co dominant at 2m	-	C2	3.72	43.47
T21	Goat willow (<i>Salix caprea</i>)	10	32,20,19	6	1	2	6	2	M	20+	Fair	-	-	C2	5.04	79.80
G22	Woodland of silver birch (<i>Betula pendula</i>), Norway maple (<i>Acer platanoides</i>), willow (<i>Salix sp.</i>), oak (<i>Quercus sp.</i>) and ash (<i>Fraxinus excelsior</i>)	10	Ave 20	As per plan				2	EM	40+	Good	Approx. 1m spacing, well structured woodland, with understory of woody shrubs	-	A2	2.40	18.10
T23	Silver birch (<i>Betula pendula</i>)	9	11,10,7.5	1.5	2	1.5	1.5	2	SM	20+	Fair	Smaller stem growing through fence and rubbing	-	C2	2.04	13.07
T24	Ash (<i>Fraxinus excelsior</i>)	9	22	3	4	3	2	1.5	EM	20+	Fair	Nails in stem	-	C2	2.64	21.90
T25	Flowering cherry (<i>Prunus sp.</i>)	9	25,10	3	3	3	3	2	M	20+	Fair	Large mature sucker on west side	-	C2	3.24	32.98

Tree No	Species	Ht (m)	Stem Diam @ 1.5m (cm)	Canopy Spread (m) N- E- S- W				Height of Crown Clearance	Age Class	Est yrs	Overall Condition	Comments	Management Recommendations	BS 5837 Category	RPA Radius (m)	RPA (m ²)
T26	Sycamore (<i>Acer psuedoplatanus</i>)	9	#22	2	2	2	2	2	EM	40+	Fair	Off site	-	C2	2.64	21.90
T27	Goat willow (<i>Salix caprea</i>)	8	22,7	3	1	2	2	1	M	<10	Poor	Dieback poor tree	Remove	U	2.76	23.93
T28	Goat willow (<i>Salix caprea</i>)	7	23	1	2	1	1	1	M	<10	Poor	Dieback poor tree	Remove	U	2.76	23.93
T29	Goat willow (<i>Salix caprea</i>)	6	22,10	1	1	4	1	2	M	<10	Poor	Major bark damage, extensive decay in main stem	Remove	U	2.88	26.06
T30	Ash (<i>Fraxinus excelsior</i>)	8	13,16,15	3	3	1	2	2	EM	20+	Fair	Multi stemmed	-	C2	3.00	28.27
T31	Ash (<i>Fraxinus excelsior</i>)	11	26	4.5	6	0	0	1.5	EM	20+	Fair	Root damage by animals	-	C2	3.12	30.58
T32	Ash (<i>Fraxinus excelsior</i>)	11	25	1	6	0	0	1.5	EM	20+	Fair	Root damage by animals	-	C2	3.00	28.27
T33	Ash (<i>Fraxinus excelsior</i>)	11	16,7.5	0	4	0	0	2	EM	20+	Fair	Root damage by animals	-	C2	2.16	14.66
T34	Ash (<i>Fraxinus excelsior</i>)	11	26	0.5	0.5	2	4	2	EM	20+	Fair	Root damage by animals	-	C2	3.12	30.58
T35	Field maple (<i>Acer campestre</i>)	9	24	1.5	3	3	1	2	EM	20+	Fair	-	-	C2	2.88	26.06
T36	Ash (<i>Fraxinus excelsior</i>)	10	16,7.5,14	0.5	1	2	3	2	EM	20+	Fair	-	-	C2	2.76	23.93
T37	Ash (<i>Fraxinus excelsior</i>)	11	28	5	6	1	0	1.5	EM	20+	Fair	-	-	C2	3.36	35.47
T38	Alder (<i>Alnus glutinosa</i>)	11	23	1.5	1.5	1.5	1.5	3	EM	20+	Fair	Ivy	-	C2	2.76	23.93

Tree No	Species	Ht (m)	Stem Diam @ 1.5m (cm)	Canopy Spread (m) N- E- S- W				Height of Crown Clearance	Age Class	Est yrs	Overall Condition	Comments	Management Recommendations	BS 5837 Category	RPA Radius (m)	RPA (m ²)
T39	Ash (<i>Fraxinus excelsior</i>)	10	24	1	6	2	1	2	EM	20+	Fair	Ivy	-	C2	2.88	26.06
T40	Ash (<i>Fraxinus excelsior</i>)	11	22	1	1	1	1	3	EM	20+	Fair	Ivy	-	C2	2.64	21.90
T41	Ash (<i>Fraxinus excelsior</i>)	11	23	0.5	2	2	2	3	EM	20+	Fair	Ivy	-	C2	2.76	23.93
T42	Ash (<i>Fraxinus excelsior</i>)	11	23,22	4.5	5	5	0	1	EM	20+	Fair	-	-	C2	3.84	46.32
T43	Ash (<i>Fraxinus excelsior</i>)	10	20,7.5	0	0	0	4	2	EM	20+	Fair	Ivy, heavy lean over boundary	-	C2	2.52	19.95
T44	Ash (<i>Fraxinus excelsior</i>)	10	20	0.5	0.5	0.5	2	2	EM	20+	Poor	Ivy, die back	-	C2	2.40	18.10
T45	Ash (<i>Fraxinus excelsior</i>)	10	24	1	0	0	5	2	EM	20+	Fair	lean over boundary	-	C2	2.88	26.06
T46	Ash (<i>Fraxinus excelsior</i>)	5	14	0.5	4	0	0	1	EM	20+	Fair	Ivy, poor form	-	C2	1.68	8.87
T47	Aspen (<i>Populus tremula</i>)	12	31	2.5	2.5	1	1	3	EM	20+	Fair	Ivy	-	C2	3.72	43.47
G48	Group of aspen (<i>Populus tremula</i>) and ash (<i>Fraxinus excelsior</i>)	15	between 7.5 - 35	As per plan					EM	20+	Fair	Group of approx. 100 stems, less than 0.5m spacing's, 95% aspen suckering from T49.	-	C2	3.36	35.47
T49	Aspen (<i>Populus tremula</i>)	15	67	10	10	10	3	1.5	M	40+	Good	-	-	B3	8.04	203.08

Tree No	Species	Ht (m)	Stem Diam @ 1.5m (cm)	Canopy Spread (m) N- E- S- W				Height of Crown Clearance	Age Class	Est yrs	Overall Condition	Comments	Management Recommendations	BS 5837 Category	RPA Radius (m)	RPA (m ²)
G50	Group consisting of Ash (<i>Fraxinus excelsior</i>), Oak (<i>Quercus robur</i>), Rowan (<i>Sorbus aucuparia</i>)	11	Ave 22	As per plan				1.5	EM	40+	Fair	1m spacing's, 95% ash, 4% oak, rowan. Some stems very close to neighbouring property	Selective removals along boundary to remove conflict with properties	B2	2.64	21.90
T51	Ash (<i>Fraxinus excelsior</i>)	11	21	2	4	1	1	1	EM	20+	Fair	Part of G50	-	C2	2.52	19.95
T52	Ash (<i>Fraxinus excelsior</i>)	11	20	1	5	1	1	1	EM	20+	Fair	Part of G50	-	C2	2.40	18.10
T53	Ash (<i>Fraxinus excelsior</i>)	12	22	4	4	2	2	1	EM	20+	Fair	Part of G54	-	C2	2.64	21.90
G54	Group consisting of Oak (<i>Quercus robur</i>), rowan (<i>Sorbus aucuparia</i>), ash (<i>Fraxinus excelsior</i>), hawthorn (<i>Crataegus monogyna</i>)	12	Ave 25	As per plan				1	EM	40+	Fair	80% oak, dbh between 25-30, 15% ash and 5% rowan. 1m spacing's.	-	B2	3.00	28.27
T55	Goat willow (<i>Salix caprea</i>)	10	24,24,15	4	4	0	1	1	EM	20+	Fair	Suspect unions at base, part of G56	-	C2	4.44	61.93

Tree No	Species	Ht (m)	Stem Diam @ 1.5m (cm)	Canopy Spread (m) N- E- S- W				Height of Crown Clearance	Age Class	Est yrs	Overall Condition	Comments	Management Recommendations	BS 5837 Category	RPA Radius (m)	RPA (m ²)
G56	Group consisting of Oak (<i>Quercus robur</i>), rowan (<i>Sorbus aucuparia</i>), ash (<i>Fraxinus excelsior</i>), hawthorn (<i>Crataegus monogyna</i>), field maple (<i>Acer campestre</i>)	8 to 10	Ave 20	As per plan				1	EM	40+	Fair	Typical amenity woodland planting mix, 1m spacing's, some stakes still present	-	C2	2.40	18.10
T57	Group consisting of Oak (<i>Quercus robur</i>), rowan (<i>Sorbus aucuparia</i>), ash (<i>Fraxinus excelsior</i>), hawthorn (<i>Crataegus monogyna</i>), field maple (<i>Acer campestre</i>)	8 to 10	Ave 20	As per plan				1	EM	40+	Fair	Typical amenity woodland planting mix, 1m spacing's, some stakes still present	-	C2	2.40	18.10
T58	Hybrid black poplar (<i>Populus x canadensis</i>)	18	58	5.5	5.5	5.5	5.5	4	EM	40+	Fair	-	-	B3	6.96	152.18
G59	Group of 4 ash (<i>Fraxinus excelsior</i>) and 5 rowans (<i>Sorbus aucuparia</i>)	12	Ave 25	As per plan				2	EM	20+	Fair	-	-	C2	3.00	28.27
T60	Ash (<i>Fraxinus excelsior</i>)	11	24	0	2	3	1	1	EM	20+	Fair	-	-	C2	2.88	26.06
T61	Ash (<i>Fraxinus excelsior</i>)	11	20	0	1	3	1	1	EM	20+	Fair	-	-	C2	2.40	18.10

Tree No	Species	Ht (m)	Stem Diam @ 1.5m (cm)	Canopy Spread (m) N- E- S- W				Height of Crown Clearance	Age Class	Est yrs	Overall Condition	Comments	Management Recommendations	BS 5837 Category	RPA Radius (m)	RPA (m²)
T62	Ash (<i>Fraxinus excelsior</i>)	11	21,18	0	1	3	1	1	EM	20+	Fair	-	-		3.36	35.47
T63	Ash (<i>Fraxinus excelsior</i>)	11	24	0	0	3	1	1	EM	20+	Poor	Lost major limb at 2.5m, remaining co dominant poorly attached	Remove	U	2.88	26.06
T64	Ash (<i>Fraxinus excelsior</i>)	11	25	0	1	3	3	1	EM	20+	Fair	-	-	C2	3.00	28.27
T65	Ash (<i>Fraxinus excelsior</i>)	12	25	2	2	2	2	2	EM	20+	Fair	-	-	C2	3.00	28.27
G66	Woodland of silver birch (<i>Betula pendula</i>), Norway maple (<i>Acer platanoides</i>), willow (<i>Salix sp.</i>), oak (<i>Quercus sp.</i>) and ash (<i>Fraxinus excelsior</i>), hawthorn (<i>Crataegus monogyna</i>), hornbeam (<i>Carpinus betulus</i>)	10 to 15	Ave between 25-30	As per plan				2	M	40+	Good	Approx. 1m spacing, well structured woodland, with understory of woody shrubs, occasional vandalism	Crown lift trees along St Helens Boulevard to 5m over parking areas.	A2	3.00	28.27
G67	Sycamore (<i>Acer pseudoplatanus</i>)	7	7.5	As per plan				0	EM	20+	Fair	Coppice regrowth and suckers from large stump, some vandalism	-	C2	0.90	2.54
G68	Group of silver birch (<i>Betula pendula</i>)	8	#3@8	As per plan				2	SM	20+	Fair	Off site	-	C2	0.96	2.90

10112
 Carlton Road, Barnsley
 - BS 5837 (2012) Tree Survey

Tree No	Species	Ht (m)	Stem Diam @ 1.5m (cm)	Canopy Spread (m) N- E- S- W	Height of Crown Clearance	Age Class	Est yrs	Overall Condition	Comments	Management Recommendations	BS 5837 Category	RPA Radius (m)	RPA (m ²)
G69	Group of blackthorn (<i>Prunus spinosa</i>)	7	Ave 7.5	As per plan	0	SM	20+	Fair	Blackthorn thicket	-	C2	0.90	2.54

Appendix 2 – Site Photographs



Plate 1: Looking east from Carlton Road, lime T14 centre right



Plate 2: Looking west to Carlton Road, T1 to T3 centre



Plate 3: Looking SW, aspen T49 centre, G50 behind



Plate 4: Eastern boundary of former school site, G57 right, G66 left

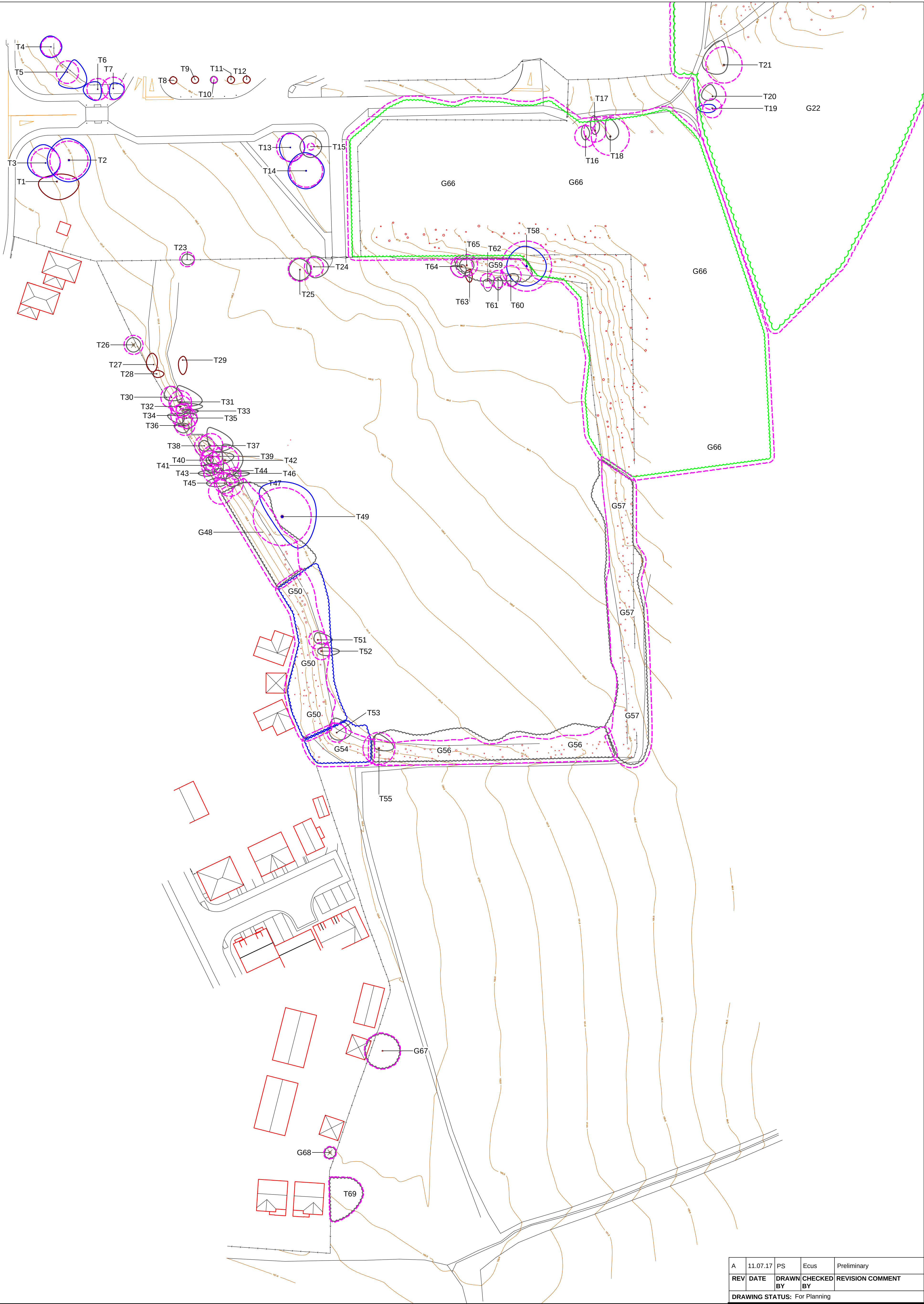


Plate 5: SW corner of site, G54 centre



Plate 6: looking east along St Helens Boulevard, G66 left.

Appendix 3 – Tree Survey and Tree Constraints Plan



KEY- Tree Survey and Tree Constraints Plan
(to be read in conjunction with Ecus Ltd.
Tree Survey report ref. 10112)

Tree surveyed by Ecus -
location of tree centre from
topographic survey

Tree surveyed by Ecus -
tree location approximated
by Ecus

Tree categories (BS 5837:2012)

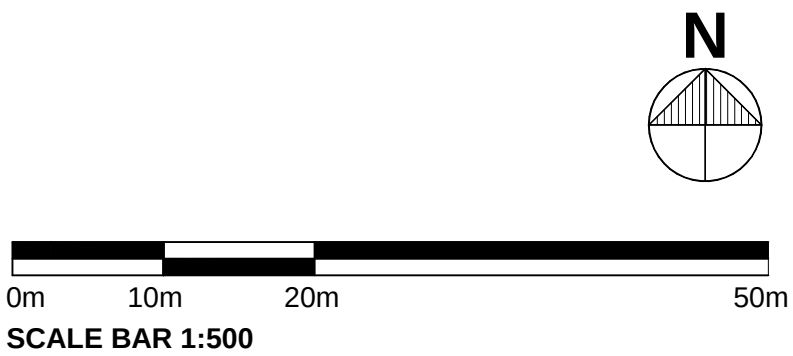
Category A Trees

Category B Trees

Category C Trees

Category U Trees

Root Protection Area (RPA) of
category A, B and C trees



A	11.07.17	PS	Ecus	Preliminary
REV	DATE	DRAWN BY	CHECKED BY	REVISION COMMENT
DRAWING STATUS: For Planning				

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Job 10112 Carlton Road			
Title Figure 2 Tree Survey and Tree Constraints Plan			
By PS	Date Jul 2017	Scale @ A1 1:500	Drg. no. 10112-ARB-01