cheshire woodlands
arboricultural consultancy

ARBORICULTURAL STATEMENT

FOR

PROPOSED RESIDENTIAL DEVELOPMENT OF LAND AT YORK STREET, GLOSSOP, SK138QP

ON BEHALF OF

PROSPECT (GB) LIMITED
UNIT 5, MERIDIAN BUSINESS PARK
HANSBY DRIVE
HUNTS CROSS
SPEKE L24 9LG

REF: CW / 6733-AS

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DATE: 31 OCTOBER 2012

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1. TERMS OF REFERENCE

1.1 We are instructed by Prospect (GB) Limited to:

- assess the possible effects of the development proposal on trees
- prepare a schedule of trees
- assess the requirement for protection of trees during the development
- prepare a report on the above matters to be submitted with a planning application for the proposed development.

1.2 Assessing the potential effects of trees upon load-bearing soils beneath existing and proposed structures, resulting from water abstraction by trees on shrinkable soils, was not included in the contract brief and is not, therefore, considered in the report. Cheshire Woodlands cannot be held responsible for damage arising from soil shrinkage or heave related to water abstraction by trees.

1.3 The tree survey is carried out in sufficient detail to gather data for and inform the design of the current project. Our appraisal of the mechanical integrity of trees on the site is of a preliminary nature and sufficient only to inform the current project. The assessment of trees is carried out from ground level without invasive investigation therefore the disclosure of hidden defects cannot be expected. Whilst the survey is not specifically commissioned to report on matters of tree safety, we report obvious defects that are significant in relation to the existing and proposed land use. We do not carry out detailed safety assessments unless specifically instructed in writing to do so and have not carried out such an assessment of trees on the proposal site.

1.4 This report and associated plans remain the copyright of Cheshire Woodlands and any transfer of rights to any third party must be with our express written consent.

2. INTRODUCTION

2.1 This assessment evaluates the effects of the application proposal upon trees. The comparative values of trees are considered broadly in line with the guidance of BS5837 (2012) and retention, protection and management of trees is informed by this evaluation.

2.2 Michael Ellison, senior partner with Cheshire Woodlands Arboricultural Consultancy, carried out the assessment of the development proposal.

2.3 The construction of 19 detached, semi-detached and terraced dwellings with associated access and hard standing is proposed. The locations of the proposed structures are plotted on the Tree Protection Plan appended at CW4.

3. THE SITE

3.1 The site, which is currently of a light industrial use, is bounded by residential properties to the south, east and west. To the north is sports field.

4. STATUTORY CONTROLS AND PLANNING POLICY

4.1 A telephone enquiry to High Peak Borough Council revealed that the site does not stand within a conservation area and that trees within the curtilage of the site are not currently the subjects of a tree preservation order.

4.2 The Wildlife and Countryside Act 1981 (together with the amendments of 1985 & 1991, the subsequent variations to the schedule orders, and strengthening amendments made within the Countryside and Rights of Way Act 2000) forms the basis for legislation protecting Britain's flora and fauna. Nesting birds and all species of bat are afforded statutory protection. It is an offence to:

- disturb a nesting bird
- disturb a roosting bat or damage, destroy or block access to a bat roost
- intentionally kill, injure or take a bat
- sell, hire, barter or exchange a bat, dead or alive
- be in possession or control of a bat or anything derived from a bat

5. SURVEY METHODOLOGY

5.1 The client supplied to us a topographic land survey drawing with tree stem positions plotted and a site layout proposal drawing. For the purpose of the report, we have assumed that detail on both drawings is accurate. The topographic land survey site layout proposal drawing is the base for our Tree Protection Plan CW/6733-P-TP appended at CW4.

5.2 The site was walked and trees were identified, measured and recorded as set out in the tabulated Tree Survey Schedule. Tree stem diameters and canopy spreads were mostly measured using a tape, whereas approximately ten percent of the recorded tree heights were measured using a tape and clinometer with the remainder being estimated against the measured trees. The survey schedule should be read in conjunction with the Glossary of Terms appended at CW2. Trees have been surveyed individually and in groups. In the tree survey schedule and on the tree protection plan individual trees are prefixed 'T', groups of trees 'G' and hedges 'H'.

5.3 All surveyed trees, either individually or by group, are allocated Retention and Visual Prominence values as defined at appendix CW3. In respect of retention values, trees or groups of trees are evaluated twice to consider their relative merits. Firstly, the trees are assessed and categorised in the context of the current land use to provide a broad valuation of all of their attributes and contribution to their environs. Secondly, the trees are assessed and categorised in the context of the development proposal.

6. DISCUSSION

6.1 The Tree Survey Schedule and the Tree Protection Plan provide the basis for our consideration of the development proposal in relation to trees. The Tree Protection Plan provides an overview of the proposal and sets out the methodology for the protection of trees during the development process.

6.2 We have located on the enclosed Tree Protection Plan and collected data for 3 individually surveyed trees, 5 groups of trees, and 2 hedges.

6.3 Trees T1, T3 and G1 of our survey stand off-site. Other than those parts that extend across the boundary into the site, these trees lie outside the client's control.

6.4 BS5837 recommends that trees be evaluated and categorised according to their 'Retention Value'. These values are detailed in the Tree Survey Schedule and the pre-development values are summarised below. Our methodology for this assessment is described at appendix CW3.

6.5 The application proposal require the removal of a number of relatively low value trees and retains those trees that can be accommodated without significantly conflicting with the residential amenities of the proposed dwellings. In their consultation comments on the current application, it has been accepted by the Council that that while they provide screening, the trees on this site are not suitable for inclusion in a tree preservation order.

6.6 Removal of trees to enable the application proposal can be appropriately mitigated with the provision of new tree planting and landscaping that can be tailored to the needs of the residential land use.

6.7 All trees identified for retention on the tree protection plan can be retained and protected in accordance with current best practice, as set out in BS5837, for the duration of construction works. In this regard, we propose:

7. CONCLUSIONS

7.1 The application proposal requires removal of low quality trees and these limited losses cam be mitigated by the provision of new landscaping. On balance, the long-term impact on trees and the landscape should be broadly neutral.

7.2 Trees retained on the site and neighbouring trees and hedges can be fully protected in accordance with current best practice.

8. RECOMMENDATIONS

8.1 Trees, shrubs and hedges should be carefully inspected for birds' nests prior to pruning or removal and any work likely to destroy or disturb active nests should be avoided until the young have fledged. Clipping of hedges should be avoided during the months March to September.

8.2 All tree removal and pruning works should be implemented in accordance with Tree Survey Schedule CW/6733-SS, prior to commencement of any construction activity. All such works should be carried out by a qualified arboricultural contractor, carrying appropriate insurance cover and should be implemented to the minimum current CE and UK industry standards and in accordance with current industry codes of practice. Certificated personnel should apply all pesticides in accordance with The Control of Pesticides Regulations.

8.3 All personnel working with or in the trees should be vigilant and mindful of the possible presence of roosting bats. A competent ecologist should investigate and advise on any indications that trees on the site are used as bat roosts.

8.4 Construction Exclusion Zones around retained trees should be achieved by the erection of Tree Protection Barriers as detailed on the Tree Protection Plan. The integrity of the barriers should be maintained for the duration of the works.

8.5 There should be no excavation for new or replacement underground services within any area designated as a Construction Exclusion Zone or otherwise protected on the Tree Protection Plan.

8.6 Foundation design should take into consideration the juxtaposition of existing and proposed trees and the nature of the load-bearing soils.

9. REFERENCES.

BS5837 2012. Trees in Relation to Construction - Recommendations. British Standards Institute, London.

BS3998 2010. Recommendations for Tree Work. British Standards Institute, London.

APPENDIX CW 1

TREE SURVEY SCHEDULE

PROJECT: LAND AT YORK STREET, GLOSSOP
CLIENT: PROSPECT (GB) LTD.
REF: CW/6733-SS
DATE: 16/5/2011

SURVEYED BY: G THOMAS
CHESHIRE WOODLANDS
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No.	Species	Age Range	Height (m)	Crown Spread (m)	Stem Dia. (mm)	Vitality	Comments	Management	Visual prominence	Retention Value Existing	Retention Value Proposed	BS5837 RPA Radius (m)
T1	Silver birch *(Betula pendula)*	M	11	12	1X500 1X450	G	• Located off-site within the garden of a neighbouring property • Crown on the west side overhangs the subject site by up to 3.0 metres with ground clearance currently down to 4.0 metres • Twin-stemmed from just above ground level	• Protect during development	2	B	B	8.1
T2	Goat willow *(Salix caprea)*	M	6	9	670	G	• Extensive decay to lower stem • Dense basal shoots of up to 120mm diameter • Most probably natural colonisation	• Fell and grub out stump	1	C	U	-
T3	Ornamental hawthorn *(Crataegus sp.)*	EM	6	8	250	G	• Located off-site within the garden of a neighbouring property • Crown on the east side overhangs the subject site by up to 3.0 metres with ground clearance almost down to ground level • Branches on the north side overlying the roof of an adjacent single storey garage	• Protect during development	1	B	B	3.0
G1	Ash *(Fraxinus excelsior)* Sycamore *(Acer pseudoplatanus)*	Y Y	≤10	≤6	≤250	G	• Closely spaced linear group located to the east side of a chain link boundary fence • Young natural colonisation along the line of a former stone boundary wall • Low branches and basal shoots growing through the chain link fence	• Protect during development	2	C	C	≤3.0

Inspection was restricted where trees were located wholly or partially on neighbouring land or where basal growth or other vegetation obscured lower stems and root collars
All trees should be re-assessed at appropriate intervals to assess their mechanical integrity unless otherwise stated in the schedule

HEADINGS & ABBREVIATIONS

Age Range: Y = Young, SM = Semi mature, EM = Early mature, M = Mature, PM = Post Mature.
Stem Dia. Stem diameter (measured at a height of approximately 1.5 metres) MS = multi-stemmed
Crown Spread: Maximum crown diameter
Vitality: D = Dead, MD = Moribund, P = Poor, M = Moderate, G = Good
Visual prominence: Broad indication of contribution to the landscape. 0 = none, 1=very low up to 5 =very high, G= contribution to a wider group. Values take into consideration the potential contribution to the landscape. Our assessment of public visibility is influenced by safe life expectancy of the tree or group
Retention Value Existing: Broadly in line with BS5837 (2005) Table 1. Our valuation considers the merits of the tree or group in the context of the existing land-use
Retention Value Proposed: Broadly in line with BS5837 (2005) chapter Table 1. Our valuation considers the merits of the tree or group in the context of a development proposal. R = Remove
BS5837 RPA Radius: Radius from the centre of the stem to the line of tree protection as set out in Table 2 of the Standard

PRELIMINARY TREE SURVEY SCHEDULE
(TO BE FINALISED UPON COMPLETION OF LAYOUT PROPOSAL)

PROJECT: LAND AT YORK STREET, GLOSSOP
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REF: CW/6733-SS
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SURVEYED BY: G THOMAS
CHESHIRE WOODLANDS
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No.	Species	Age Range	Height (m)	Crown Spread (m)	Stem Dia. (mm)	Vitality	Comments	Management	Visual prominence	Retention Value Existing	Retention Value Proposed	BS5837 RPA Radius (m)
G2	2 Beech *(Fagus sylvatica)*	SM	13	≤14	1X450 1X580	G	• Clear stems to between 1.6 and 1.8 metres • Ground clearance over the subject site of between ground level and 4.0 metres, which could be raised to a height of 5.0/6.0 metres by removal of low secondary growth • Both trees have acute included-bark unions of co-dominant and primary branches, none of which currently show any signs of failure	• Fell and grub out stumps	2	B	U	-
G3	Cotoneaster Birch *(Betula sp.)* Sycamore White poplar *(Populus alba)* Field maple *(Acer campestre)* Ash Red flowering hawthorn *(Crataegus sp.)* Whitebeam *(Sorbus aria)*	SM SM SM/EM Y-EM SM Y SM	≤16	≤14	≤540	P-G	• Closely spaced linear group of boundary trees • Contains several recently cut stumps of white poplar, ash, whitebeam and cotoneaster • Young root sucker growth of white poplar • Contains several low value cotoneaster, birch, hawthorn, white poplar and field maple trees, which could be removed without any significant impact on the collective visual quality/landscape value of the wider group and would provide opportunities for new boundary landscaping • **Sycamore trees G3/1-3 and field maple G3/4** are **t**he principal trees in the group with ground clearance on the south side down to 3.0 metres, which could be raised to a height of 4.5 metres by removal of low lateral and sub-lateral branches • Removal of white poplar tree **G3/5** would favour long-term development of the adjacent sycamores **G3/2** and **G3/3** • **G3/6 Red hawthorn.** Expresses substantially reduced vitality • **G3/7 Field maple.** Recently heavily pruned to remove all branches on the west side probably in order to clear satellite dishes on the end elevation of an adjacent building	• Fell and grub out stumps	2	B	U	3.0

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CHESHIRE WOODLANDS
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No.	Species	Age Range	Height (m)	Crown Spread (m)	Stem Dia. (mm)	Vitality	Comments	Management	Visual prominence	Retention Value Existing	Retention Value Proposed	BS5837 RPA Radius (m)
G4	Ash Goat willow Weeping willow *(Salix chrysocoma)* Lawson's cypress *(Chamaecyparis lawsoniana)* Golden Leyland cypress *(X Cuprocyparis leylandii 'Castlewellan Gold')* Hawthorn *(Crataegus monogyna)* Elder *(Sambucus nigra)* Sycamore	Y Y SM SM EM Y	≤11	≤5	≤250 (EST)	G	• Closely spaced linear group of boundary trees • Ornamental conifers and a weeping willow to the centre are located off-site within the gardens of neighbouring properties. The remainder are either remnants of old boundary hedges or recent natural colonisation • Dense Japanese knotweed to the centre • Removal and replacement with new boundary landscaping could provide long-term amenity benefits	• Fell and grub out stumps	1	C	U	-
G5	Goat willow Dogwood *(Cornus sp.)* Hawthorn Sycamore Ash Common oak *(Quercus robur)* Bird cherry *(Prunus padus)* Apple *(Malus sp.)*	Y SM-EM Y-SM Y SM EM EM	≤14	≤11	≤450	G	• Closely spaced group • Several hawthorn trees are probably remnants of old boundary hedges • Several multi-stemmed goat willow, sycamore and ash are probably stool shoots from previously cut stumps and are probably natural colonisation • Comprises mainly low value vegetation, the removal of which would have no significant impact on the visual qualities/landscape character of the wider group and would provide opportunities for supplementary landscaping • **G5/1 Sycamore.** Twin-stemmed from just above ground level with acute included-bark unions of co-dominant stems and fused and partially fused co-dominant stems and branches up to a height of 2.5 metres • **G5/2 Bird cherry.** Twin-stemmed from ground level. Removal would favour long-term development of the adjacent twin-stemmed oak tree **G5/3**, which is the only tree of any particular merit in the group	• Retain trees A and B and grub out remainder • Protect retained trees ≤250mm stem dia.	2	B	C+U	-

PRELIMINARY TREE SURVEY SCHEDULE
(TO BE FINALISED UPON COMPLETION OF LAYOUT PROPOSAL)

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CHESHIRE WOODLANDS
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No.	Species	Age Range	Height (m)	Crown Spread (m)	Stem Dia. (mm)	Vitality	Comments	Management	Visual prominence	Retention Value Existing	Retention Value Proposed	BS5837 RPA Radius (m)
H1	Hawthorn Elder Ash	-	≤3	-	-	M	• Length of maintained party boundary hedge • Mainly hawthorn • Slightly sparse in places	• Maintain as a clipped hedge • Protect during development	1	-	-	-
H2	Leyland cypress Golden Leyland cypress Ash	Y	≤8	≤3	≤200	G	• Length of unmanaged party boundary hedge located off-site within the garden of a neighbouring property • Would benefit from management	• Protect during development	2	-	-	-

APPENDIX CW 2

GLOSSARY OF ARBORICULTURAL TERMS

Abscission. The shedding of a leaf or other short-lived part of a woody plant, involving the formation of a corky layer across its base; in some tree species twigs can be shed in this way

Abiotic. Pertaining to non-living agents; e.g. environmental factors

Absorptive roots. Non-woody, short-lived roots, generally having a diameter of less than one millimetre, the primary function of which is uptake of water and nutrients

Adaptive growth. In tree biomechanics, the process whereby the rate of wood formation in the cambial zone, as well as wood quality, responds to gravity and other forces acting on the cambium. This helps to maintain a uniform distribution of mechanical stress

Adaptive roots. The adaptive growth of existing roots; or the production of new roots in response to damage, decay or altered mechanical loading

Adventitious shoots. Shoots that develop other than from apical, axillary or dormant buds; see also 'epicormic'

Anchorage. The system whereby a tree is fixed within the soil, involving cohesion between roots and soil and the development of a branched system of roots which withstands wind and gravitational forces transmitted from the aerial parts of the tree

Architecture. In a tree, a term describing the pattern of branching of the crown or root system

Axil. The place where a bud is borne between a leaf and its parent shoot

Bacteria. Microscopic single-celled organisms, many species of which break down dead organic matter, and some of which cause diseases in other organisms

Bark. A term usually applied to all the tissues of a woody plant lying outside the vascular cambium, thus including the phloem, cortex and periderm; occasionally applied only to the periderm or the phellem

Basidiomycotina (Basidiomycetes). One of the major taxonomic groups of fungi; their spores are borne on microscopic peg-like structures (basidia), which in many types are in turn borne on or within conspicuous fruit bodies, such as brackets or toadstools. Most of the principal decay fungi in standing trees are basidiomycetes

Bolling. A term sometimes used to describe pollard heads

Bottle-butt. A broadening of the stem base and buttresses of a tree, in excess of normal and sometimes denoting a growth response to weakening in that region, especially due to decay involving selective delignification

Bracing. The use of rods or cables to restrain the movement between parts of a tree

Branch:

- Primary. A first order branch arising from a stem
- Lateral. A second order branch, subordinate to a primary branch or stem and bearing sub-lateral branches
- Sub-lateral. A third order branch, subordinate to a lateral or primary branch, or stem and usually bearing only twigs

Branch bark ridge. The raised arc of bark tissues that forms within the acute angle between a branch and its parent stem

Branch collar. A visible swelling formed at the base of a branch whose diameter growth has been disproportionately slow compared to that of the parent stem; a term sometimes applied also to the pattern of growth of the cells of the parent stem around the branch base

Brown-rot. A type of wood decay in which cellulose is degraded, while lignin is only modified

Buckling. An irreversible deformation of a structure subjected to a bending load

Buttress zone. The region at the base of a tree where the major lateral roots join the stem, with buttress-like formations on the upper side of the junctions

Cambium. Layer of dividing cells producing xylem (woody) tissue internally and phloem (bark) tissue externally

Canker. A persistent lesion formed by the death of bark and cambium due to colonisation by fungi or bacteria

Canopy species. Tree species that mature to form a closed woodland canopy

Cleaning out. The removal of dead, crossing, weak, and damaged branches, where this will not damage or spoil the overall appearance of the tree

Compartmentalization. The confinement of disease, decay or other dysfunction within an anatomically discrete region of plant tissue, due to passive and / or active defences operating at the boundaries of the affected region

Compression fork. An acute angled fork that is mechanically optimised for the growth pressure that two or more adjacent stems exert on each other.

Compression strength. The ability of a material or structure to resist failure when subjected to compressive loading; measurable in trees with special drilling devices

Compressive loading. Mechanical loading which exerts a positive pressure; the opposite to tensile loading

Condition. An indication of the physiological vitality of the tree. Where the term ‘condition’ is used in a report, it should not be taken as an indication of the stability of the tree

Construction exclusion zone. Area based on the Root Protection Area (in square metres) to be protected during development, by the use of barriers and / or ground protection

Crown/Canopy. The main foliage bearing section of the tree

Crown lifting. The removal of limbs and small branches to a specified height above ground level

Crown thinning. The removal of a proportion of secondary branch growth throughout the crown to produce an even density of foliage around a well-balanced branch structure

Crown reduction/shaping. A specified reduction in crown size whilst preserving, as far as possible, the natural tree shape

Crown reduction/thinning. Reduction of the canopy volume by thinning to remove dominant branches whilst preserving, as far as possible the natural tree shape

Deadwood. Dead branch wood

Decurrent. In trees, a system of branching in which the crown is borne on a number of major widely-spreading limbs of similar size (cf. excurrent). In fungi with toadstools as fruit bodies, the description of gills which run some distance down the stem, rather than terminating abruptly

Defect. In relation to tree hazards, any feature of a tree which detracts from the uniform distribution of mechanical stress, or which makes the tree mechanically unsuited to its environment

Delamination. The separation of wood layers along their length, visible as longitudinal splitting

Dieback. The death of parts of a woody plant, starting at shoot-tips or root-tips

Disease. A malfunction in or destruction of tissues within a living organism, usually excluding mechanical damage; in trees, usually caused by pathogenic micro-organisms

Distal. In the direction away from the main body of a tree or subject organism (cf. proximal)

Dominance. In trees, the tendency for a leading shoot to grow faster or more vigorously than the lateral shoots; also the tendency of a tree to maintain a taller crown than its neighbours

Dormant bud. An axial bud which does not develop into a shoot until after the formation of two or more annual wood increments; many such buds persist through the life of a tree and develop only if stimulated to do so

Dysfunction. In woody tissues, the loss of physiological function, especially water conduction, in sapwood

Incorporating extracts from Lonsdale, D. 1999. Principles of Tree Hazard Assessment. Her Majesty's Stationary Office, London

DBH (Diameter at Breast Height). Stem diameter measured at a height of 1.5 metres (UK) or the nearest measurable point. Where measurement at a height of 1.5 metres is not possible, another height may be specified

Deadwood. Branch or stem wood bearing no live tissues. Retention of deadwood provides valuable habitat for a wide range of species and seldom represents a threat to the health of the tree. Removal of deadwood can result in the ingress of decay to otherwise sound tissues and climbing operations to access deadwood can cause significant damage to a tree. Removal of deadwood is generally recommended only where it represents an unacceptable level of hazard

Endophytes. Micro-organisms which live inside plant tissues without causing overt disease, but in some cases capable of causing disease if the tissues become physiologically stressed, for example by lack of moisture

Epicormic shoot. A shoot having developed from a dormant or adventitious bud and not having developed from a first year shoot

Excrescence. Any abnormal outgrowth on the surface of tree or other organism

Excurrent. In trees, a system of branching in which there is a well defined central main stem, bearing branches which are limited in their length, diameter and secondary branching (cf. decurrent)

Fastigiate. Having upright, often clustered branches

Felling licence. In the UK, a permit to fell trees in excess of a stipulated number of stems or volume of timber

Flush-cut. A pruning cut which removes part of the branch bark ridge and or branch-collar

Girdling root. A root which circles and constricts the stem or roots possibly causing death of phloem and / or cambial tissue

Guying. A form of artificial support with cables for trees with a temporarily inadequate anchorage

Habit. The overall growth characteristics, shape of the tree and branch structure

Hazard beam. An upwardly curved part of a tree in which strong internal stresses may occur without being reduced by adaptive growth; prone to longitudinal splitting

Heartwood/false-heartwood/ripewood. Sapwood that has become dysfunctional as part of the natural aging processes

Heave. A term mainly applicable to a shrinkable clay soil which expands due to re-wetting after the felling of a tree which was previously extracting moisture from the deeper layers; also the lifting of pavements and other structures by root diameter expansion; also the lifting of one side of a wind-rocked root-plate

High canopy tree species. Tree species having potential to contribute to the closed canopy of a mature woodland or forest

Incipient failure. In wood tissues, a mechanical failure which results only in deformation or cracking, and not in the fall or detachment of the affected part

Included bark (ingrown bark). Bark of adjacent parts of a tree (usually forks, acutely joined branches or basal flutes) which is in face-to-face contact

Increment borer. A hollow auger, which can be used for the extraction of wood cores for counting or measuring wood increments or for inspecting the condition of the wood

Infection. The establishment of a parasitic micro-organism in the tissues of a tree or other organism

Internode. The part of a stem between two nodes; not to be confused with a length of stem which bear nodes but no branches

Lever arm. A mechanical term denoting the length of the lever represented by a structure that is free to move at one end, such as a tree or an individual branch

Lignin. The hard, cement-like constituent of wood cells; deposition of lignin within the matrix of cellulose microfibrils in the cell wall is termed Lignification

Lions tailing. A term applied to a branch of a tree that has few if any side-branches except at its end, and is thus liable to snap due to end-loading

Loading. A mechanical term describing the force acting on a structure from a particular source; e.g. the weight of the structure itself or wind pressure

Longitudinal. Along the length (of a stem, root or branch)

Lopping. A term often used to describe the removal of large branches from a tree, but also used to describe other forms of cutting

Mature Heights (approximate):

- Low maturing – less than 8 metres high
- Moderately high maturing – 8 – 12 metres high
- High maturing – greater than 12 metres high

Microdrill. An electronic rotating steel probe, which when inserted into woody tissue provides a measure of tissue density

Minor deadwood. Deadwood of a diameter less than 25mm and or unlikely to cause significant harm or damage upon impact with a target beneath the tree

Mulch. Material laid down over the rooting area of a tree or other plant to help conserve moisture; a mulch may consist of organic matter or a sheet of plastic or other artificial material

Mycelium. The body of a fungus, consisting of branched filaments (hyphae)

Occluding tissues. A general term for the roll of wood, cambium and bark that forms around a wound on a woody plant (cf. woundwood)

Occlusion. The process whereby a wound is progressively closed by the formation of new wood and bark around it

Pathogen. A micro-organism which causes disease in another organism

Photosynthesis. The process whereby plants use light energy to split hydrogen from water molecules, and combine it with carbon dioxide to form the molecular building blocks for synthesizing carbohydrates and other biochemical products

Phytotoxic. Toxic to plants

Pollarding. The removal of the tree canopy, back to the stem or primary branches, usually to a point just outside that of the previous cutting. Pollarding may involve the removal of the entire canopy in one operation, or may be phased over several years. The period of safe retention of trees having been pollarded varies with species and individuals. It is usually necessary to re-pollard on a regular basis, annually in the case of some species

Primary branch. A major branch, generally having a basal diameter greater than 0.25 x stem diameter

Primary root zone. The soil volume most likely to contain roots that are critical to the health and stability of the tree and normally defined by reference BS5837 (2005) Guide for Trees in Relation to Construction.

Priority. Works may be prioritised, 1. = high, 5. = low

Probability. A statistical measure of the likelihood that a particular event might occur

Proximal. In the direction towards from the main body of a tree or other living organism (cf. distal)

Pruning. The removal or cutting back of twigs or branches, sometimes applied to twigs or small branches only, but often used to describe most activities involving the cutting of trees or shrubs

Radial. In the plane or direction of the radius of a circular object such as a tree stem

Rams-horn. In connection with wounds on trees, a roll of occluding tissues which has a spiral structure as seen in cross-section

Rays. Strips of radially elongated parenchyma cells within wood and bark. The functions of rays include food storage, radial translocation and contributing to the strength of wood

Reactive Growth/Reaction Wood. Production of woody tissue in response to altered mechanical loading; often in response to internal defect or decay and associated strength loss (cf. adaptive growth)

Removal of dead wood. Unless otherwise specified, this refers to the removal of all accessible dead, dying and diseased branchwood and broken snags

Removal of major dead wood. The removal of, dead, dying and diseased branchwood above a specified size

Incorporating extracts from Lonsdale, D. 1999. Principles of Tree Hazard Assessment. Her Majesty's Stationary Office, London

Respacing. Selective removal of trees from a group or woodland to provide space and resources for the development of retained trees.

Residual wall. The wall of non-decayed wood remaining following decay of internal stem, branch or root tissues

Ring-barking (girdling). The removal of a ring of bark and phloem around the circumference of a stem or branch, normally resulting in an inability to transport photosynthetic assimilates below the area of damage. Almost inevitably results in the eventual death of the affected stem or branch above the damage.

Root-collar. The transitional area between the stem / s and roots

Root-collar examination. Excavation of surfacing and soils around the root-collar to assess the structural integrity of roots and / or stem

Root protection area. An area of ground surrounding a tree that contains sufficient rooting volume to ensure the tree's survival. Calculated with reference to Table 2 of BS5837 (2005) and shown in plan form in square metres

Root zone. Area of soils containing absorptive roots of the tree / s described. The Primary root zone is that which we consider of primary importance to the physiological well-being of the tree

Sapwood. Living xylem tissues

Secondary branch. A branch, generally having a basal diameter of less than 0.25 x stem diameter

Selective delignification. A kind of wood decay (white-rot) in which lignin is degraded faster than cellulose

Shedding. In woody plants, the normal abscission, rotting off or sloughing of leaves, floral parts, twigs, fine roots and bark scales

Silviculture. The practice of controlling the establishment, growth, composition, health, and quality of forests to meet diverse needs and values.

Silvicultural thinning. Removal of selected trees to favour the development of retained specimens to achieve a management objective

Simultaneous white-rot. A kind of wood decay in which lignin and cellulose are degraded at about the same rate

Snag. In woody plants, a portion of a cut or broken stem, branch or root which extends beyond any growing-point or dormant bud; a snag usually tends to die back to the nearest growing point

Soft-rot. A kind of wood decay in which a fungus degrades cellulose within the cell walls, without any general degradation of the wall as a whole

Spores. Propagules of fungi and many other life-forms; most spores are microscopic and dispersed in air or water

Shrub species. Woody perennial species forming the lowest level of woody plants in a woodland and not normally considered to be trees

Sporophore. The spore bearing structure of fungi

Sprouts. Adventitious shoot growth erupting from beneath the bark

Stem/s. The main supporting structure / s, from ground level up to the first major division into branches

Stress. In plant physiology, a condition under which one or more physiological functions are not operating within their optimum range, for example due to lack of water, inadequate nutrition or extremes of temperature

Stress. In mechanics, the application of a force to an object

Stringy white-rot. The kind of wood decay produced by selective delignification

Storm. A layer of tissue which supports the fruit bodies of some types of fungi, mainly ascomycetes

Structural roots. Roots, generally having a diameter greater than ten millimetres, and contributing significantly to the structural support and stability of the tree

Subsidence. In relation to soil or structures resting in or on soil, a sinking due to shrinkage when certain types of clay soil dry out, sometimes due to extraction of moisture by tree roots

Subsidence. In relation to branches of trees, a term that can be used to describe a progressive downward bending due to increasing weight

Taper. In stems and branches, the degree of change in girth along a given length

Target canker. A kind of perennial canker, containing concentric rings of dead occluding tissues

Targets. In tree risk assessment (with slight misuse of normal meaning) persons or property or other things of value which might be harmed by mechanical failure of the tree or by objects falling from it

Topping. In arboriculture, the removal of the crown of a tree, or of a major proportion of it

Torsional stress. Mechanical stress applied by a twisting force

Translocation. In plant physiology, the movement of water and dissolved materials through the body of the plant

Transpiration. The evaporation of moisture from the surface of a plant, especially via the stomata of leaves; it exerts a suction which draws water up from the roots and through the intervening xylem cells

Understorey. A layer of vegetation beneath the main canopy of woodland or forest or plants forming this

Understorey tree species. Tree species not having potential to attain a size at which they can contribute to the closed high canopy of a woodland

Vascular wilt. A type of plant disease in which water-conducting cells become dysfunctional

Vessels. Water-conducting cells in plants, usually wide and long for hydraulic efficiency; generally not present in coniferous trees

Veteran tree. A loosely defined term for an old specimen that is of interest biologically, culturally or aesthetically because of its age, size or condition and which has usually lived longer than the typical upper age range for the species concerned

Vigour. The expression of carbohydrate expenditure to growth (in trees).

Vitality. A measure of physiological condition expressed through the health and growth of foliage, shoots and adaptive woody tissues.

White-rot. A range of kinds of wood decay in which lignin, usually together with cellulose and other wood constituents, is degraded

Wind exposure. The degree to which a tree or other object is exposed to wind, both in terms of duration and velocity

Wind pressure. The force exerted by a wind on a particular object

Windthrow. The blowing over of a tree at its roots

Wound dressing. A general term for sealants and other materials used to cover wounds in the hope of protecting them against desiccation and infection; only of proven value against fresh wound parasites

Woundwood. Wood with atypical anatomical features, formed in the vicinity of a wound

Incorporating extracts from Lonsdale, D. 1999. Principles of Tree Hazard Assessment. Her Majesty's Stationary Office, London

APPENDIX CW 3

Guidance Note - Assessment of Retention Values and Assessment of Visual Prominence

Retention Values. Trees or groups of trees are evaluated twice in order to facilitate consideration of their relative merits. Firstly, the trees are assessed and categorised in the context of the pre-development situation to provide a broad valuation of all of their attributes and the contribution to their environs. Secondly, the trees are similarly assessed and categorised in the context of a development proposal. The evaluations consider current or projected: -

- life expectancy (broad categorisation)
- visual prominence (current and potential)
- landscape function
- numbers of other trees and their maturity (continuity for landscape, amenity, habitat)
- wildlife habitats (incl. continuity)
- safety
- conflicts with the built environment or other land-use
- cultural, historical or other special value

Groups of trees are assessed and categorised as a single unit.

Pre-Development Retention Value. Each surveyed tree or group of trees is valued and placed into one of the following categories (A, B, C or U). The valuation considers the benefits and disbenefits of retaining the tree or group of trees in the pre-development context; any specific issues are noted in the tree survey schedule.

(A) Trees the retention of which in the pre-development context is most desirable and that have an estimated remaining life expectancy of at least 40 years (high value category)

- wholly appropriate to the pre-development situation and without significant conflict

(B) Trees the retention of which in the pre-development context is desirable and that have an estimated remaining life expectancy of at least 20 years (moderate value category)

- appropriate to the pre-development situation but not of highest value

(C) Trees that could be retained in the pre-development context and have an estimated remaining life expectancy of at least 10 years (low value category)

- ill suited to the pre-development situation but could be retained with moderate conflicts
- trees of no particular merit in the pre-development context

(U) Trees unsuitable for retention in the pre-development context

- cannot reasonably be retained within the pre-development situation for longer than 10 years

Post-Development Retention Value. With reference to a development proposal, each of the trees or groups of trees is placed in one of the following categories (A, B, C or U). The valuation considers the benefits and disbenefits of retaining the tree or group of trees in the context of the development proposal; any specific issues are noted in the tree survey schedule.

(A) Trees the retention of which is most desirable (high value category)
- retention wholly appropriate to the proposed situation and without significant conflict

(B) Trees the retention of which is desirable (moderate category)
- retention appropriate to the proposed situation but not of highest value and / or having only minor conflicts

(C) Trees which could be retained (low value category)
- retention ill suited to the proposed situation but could be retained with moderate conflicts
- trees of no particular merit in the proposed situation

(U) Trees for removal:
- cannot reasonably be retained within the proposed situation

Visual Prominence Values. Determined by assessment of current and potential visual prominence and taking account of location, tree size and growth potential. Visual prominence values are classified as follows:
(0) none, (1) very low up to (5) very high

APPENDIX CW 4

TREE PROTECTION PLAN

TREE PROTECTION SPECIFICATION

Construction Exclusion Zones shall: -

1. be secured prior to commencement of any construction or demolition works, delivery of site accommodation or materials and shall remain intact for the duration of site demolition and construction works
2. preclude all construction activity with the sole exception of specified arboricultural works and such works as have been agreed by all parties and to be carried out under supervision
3. be protected by 'tree protection barriers' as specified on this drawing
4. preclude the storage or tipping of all materials and substances

Toxic substances such as fuels, oils, additives and cement shall not be stored within 5.0metres of a 'construction exclusion zone'

Any incursion into 'construction exclusion zones' must be by prior arrangement, following consultation with the LPA

Tree Protection Barriers

1. The 'tree protection barriers' shall comprise 2.0m high weldmesh 'Heras' type fencing
2. The fencing panels shall butt together and be securely fixed to 2.7m x 100 mm x 100mm timber posts, set or concreted into 0.6m deep, 150 mm diameter augured holes at 3.5m centres
3. No fixing shall be made to any tree and every possible precaution shall be taken to prevent damage to tree roots when locating posts
4. A 600mm x 300mm warning sign reading as per figure 1 shall be fixed to every 10.0m of 'tree protection barrier'
5. The 'project arboriculturist' shall direct erection of 'tree protection barriers'

Fig.1

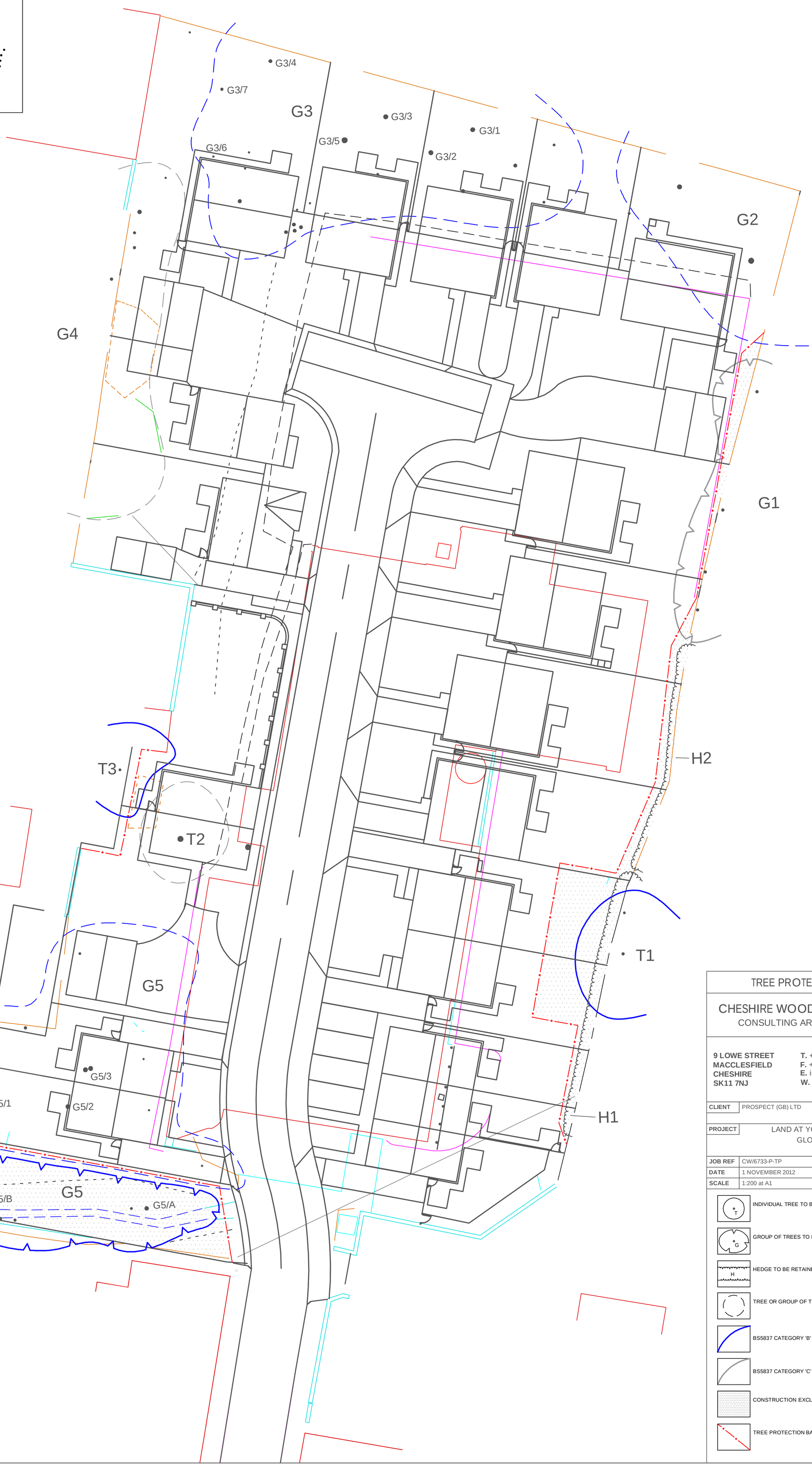
CONSTRUCTION EXCLUSION ZONE
KEEP OUT!

ALL TREES ENCLOSED BY THIS FENCE ARE PROTECTED
BY PLANNING CONDITIONS (TOWN AND COUNTRY PLANNING ACT 1990)

THE FOLLOWING MUST BE OBSERVED BY ALL PERSONNEL:

- THE TEMPORARY PROTECTIVE FENCING MUST NOT BE MOVED
- NO PERSON SHALL ENTER THE CONSTRUCTION EXCLUSION ZONE
- NO MACHINE OR PLANT SHALL ENTER THE CONSTRUCTION EXCLUSION ZONE
- NO MATERIAL SHALL BE STORED IN THE CONSTRUCTION EXCLUSION ZONE
- NO SPOIL SHALL BE DEPOSITED IN THE CONSTRUCTION EXCLUSION ZONE
- NO EXCAVATION SHALL OCCUR IN THE CONSTRUCTION EXCLUSION ZONE

ANY INCURSION INTO THE CONSTRUCTION EXCLUSION ZONE MUST BE
WITH THE PRIOR WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY



SCALE:	1:200
UNITS:	METRES

0 5 10

TREE PROTECTION PLAN

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PROJECT	LAND AT YORK STREET GLOSSOP
JOB REF	CW/6733-P-TP
DATE	1 NOVEMBER 2012
SCALE	1:200 at A1

- INDIVIDUAL TREE TO BE RETAINED
- GROUP OF TREES TO BE RETAINED
- HEDGE TO BE RETAINED
- TREE OR GROUP OF TREES TO BE REMOVED
- BS5837 CATEGORY 'B' TREES
- BS5837 CATEGORY 'C' TREES
- CONSTRUCTION EXCLUSION ZONE
- TREE PROTECTION BARRIER

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