

ARBORICULTURAL REPORT

AT: 25 Tredegar Road, Caversham, Berkshire



CLIENT: Snowstorm Ltd

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Arboricultural Impact Assessment

Report Reference: AIA 01

Site address: 25 Tredegar Road, Caversham, Berkshire. RG4 8QE

Report Produced for: Snowstorm Ltd

Purpose of the Report: The primary purpose of this report is to provide sufficient information to enable Reading Borough Council Planning Authority to assess the impact of the development proposals on the local character of the area, in that it is contributed to by trees, in relation to local, regional and national government policies and guidance.

This report is made in conjunction with the principal recommendations of British Standard: 5837 (2102): *Trees in relation to design, demolition and construction –Recommendations*; and evaluates the direct and indirect effects of the proposed design on the local tree population, where necessary making recommendations for mitigation.

The report includes:

- A tree survey;
- trees selected for retention, clearly identified (e.g. by number) and marked on a plan;
- trees to be removed, also clearly identified (e.g. by number) and marked on a plan;
- trees to be pruned, including any access facilitation pruning, also clearly identified and labelled or listed as appropriate;
- evaluation of impact of proposed tree losses;
- evaluation of tree constraints and tree protection plan;
- issues to be addressed by an arboricultural method statement, where necessary in conjunction with input from other specialists.

Version / ref	Issue date
AIA 01	28 January 2018

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SUMMARY OF IMPACTS

Table 2: Trees to be removed				
Tree no.	Species	Height	Age class	Category
T1	Lawson Cypress	6m	EM	C
T2	Sycamore	18m	EM	C
T3	Weeping Willow	10m	EM	C
T4	Cherry	4m	Y	C
T5	Sycamore	14m	EM	B
T6	Common Hazel	7m	SM	C
T7	English Oak	4m	EM	U
T8	Horse Chestnut	17m	EM	B
T9	Cherry Laurel	11m	EM	B
T10	Flowering Cherry	15m	SM	C
T12	Elder	5m	EM	U
T15	Lawson Cypress	6m	EM	B
T16	Lawson Cypress	6m	EM	B
T17	Lawson Cypress	6m	EM	B

Table 3: Breakdown of tree categories to be removed	
Cat A	-
Cat B	6
Cat C	6
Cat U	2

Table 4: Trees to be pruned		
Tree no.	Species	Required pruning
H1	Cypress hedge	Removal of a small section of the hedge for the access
T8	Horse Chestnut	Reduction of the crown to clear the building by 2 metres

Table 5: RPA incursions				
Tree no.	Species	Incursion by	Incursion amount	Mitigation
T8	Horse Chestnut	Corner of house/ cellular Paving	4.8%/6.5%	On site monitoring/ cellular confinement footway

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• Introduction

- **Site address**

- 25 Tredegar Road, Caversham, Berkshire. RG4 8QE

- **Instruction**

- J. A. Consulting has been instructed by Snowstorm Ltd, to survey the trees growing on or immediately adjacent to this site and to assess the impacts of the proposed development on the trees, in keeping with recommendations of British Standard BS 5837 (2012): *Trees in relation to design, demolition and construction — Recommendations*.

- **Scope and use of report**

- This report is intended to accompany a planning application to be submitted to Reading Borough Council.
- This report has been designed to be utilised by interested parties at various stages of the development process; from those involved at project feasibility, through to design and development planning. It assesses the direct and indirect impacts of the proposal on trees and where necessary gives guidance on tree related issues to be addressed before and during construction.
- The appended Arboricultural Method Statement and Tree Protection Plan are the principal documents to be used for construction of the proposed development in relation to trees.

- **Documents provided**

- The plans and assessment in this report are produced using the following documents:
 - Topographic survey
 - BDP Proposed site plan Dwg No: P-003

- The Site proposed for development lies within the district of Caversham that is north of Reading. The surrounding area is a mixture of detached housing with woodland to the south and north that breaks up the original development. To the south is a school with large grounds.
- Trees within the immediate area are a mixture of semi-mature to mature age classes and differ in quality. The garden is screened by a hedge that is declining at both the front and rear. To the west is a community space that has an area of protected woodland. The trees along this boundary, again, vary in their condition and size, with many being shaded out by larger, or more vigorous trees.
- The area identified for the proposed development works is shown by the red lines in the image below and consist of the extended garden of No.25. The garden is a mixture of ornamental plantings, self set trees, hedges and lawn.



- **Topography & soil survey**

- In general, the site slopes gently downwards from the south to the north, with an overall drop of nearly 2m;
- Detailed soil survey information has not been provided.
- A desktop study using Cranfield University interactive map (DEFRA, 2017) shows the following soils scape:

Soilscape (England)
Reference

8

Name

SLIGHTLY ACID LOAMY & CLAYEY SOILS WITH IMPEDED DRAINAGE

Main Surface Texture Class

LOAMY SOME CLAYEY

Natural Drainage Type

SLIGHTLY IMPEDED DRAINAGE

Natural Fertility

MODERATE TO HIGH

Characteristic Semi-natural Habitats

WIDE RANGE OF PASTURE AND WOODLAND TYPES

Main Land Cover

ARABLE AND GRASSLAND

- At this stage, this information is more likely to have a bearing on species selection for mitigation tree planting rather than assessing tree root morphology for individual trees and engineers' requirements for proposed foundations in relation to trees.

- **Statutory controls**

- A search of the property on the Reading Borough Council Local Planning Authority Website carried out on 21.01.18 showed that the property involved in this proposal did not have TPOs but neighbouring Local Authority land does. The TPO 333 appears to border up to the property and this has been confirmed by a conversation with Sarah Hanson Tree Officer at Reading Borough Council.
- The property does not sit within a conservation area.

• The Trees

○ Surveyed trees

- The details of the trees are found in the appended tree survey schedule (TSS). The locations of the trees are shown on the appended plans. The trees surveyed have been categorised as set out in BS 5837 (2012); a breakdown of which is shown at **Table 1** below.

Table 1: Tree Categories		
TREE CATEGORY	INDIVIDUAL TREES	GROUPS OR HEDGES
Cat A	-	-
Cat B	7	-
Cat C	9	2
Cat U	2	-
TOTAL	17	2

• Arboricultural Impacts Assessment

○ Trees to be removed

- The trees that will need to be removed, as shown on the TPP to provide space for construction; are listed at below at **Table 2**.

Table 2: Trees to be removed				
Tree no.	Species	Height	Age class	Category
T1	Lawson Cypress	6m	EM	C
T2	Sycamore	18m	EM	C
T3	Weeping Willow	10m	EM	C
T4	Cherry	4m	Y	C
T5	Sycamore	14m	EM	B
T6	Common Hazel	7m	SM	C
T7	English Oak	4m	EM	U
T8	Horse Chestnut	17m	EM	B
T9	Cherry Laurel	11m	EM	B
T10	Flowering Cherry	15m	SM	C
T12	Elder	5m	EM	U
T15	Lawson Cypress	6m	EM	B
T16	Lawson Cypress	6m	EM	B
T17	Lawson Cypress	6m	EM	B

- The loss of these trees will have a very limited impact to the street scene overall except for the neighbours directly opposite. Looking at Google earth aerial view shows the total canopy coverage in the area as being dense. These trees are on the outer area of the protected zone of trees in the communal area.
- The quality of the trees is average and many have limited potential to make an impact to the overall street scene in the long-term.
- Whilst there are 6 B class trees shown for removal T15, T16 and T17 are small in size and limited in regards to their long-term landscape value.
- Within the School to the rear of the property, there is a group of early mature trees that will adequately compensate the loss of the trees within No.25 and provide continuity (a little off-set) of the wider surrounding woodland and skyline.
- There is a small section of the hedge H1 to be removed to provide the access drive way into the property.
- T4 is shown for removal, though is owned by the highway authority. This tree is young enough to be transplanted within the verge in either direction and therefore not lost in the local street scene. This will need to be agreed with the highway authority.
- A breakdown of the categories of the trees to be removed is shown below at **Table 3.**

Table 3: Breakdown of tree categories to be removed	
Cat A	-
Cat B	6
Cat C	6
Cat U	2

○ **Trees to be pruned**

- Trees identified for pruning are shown below at **Table 4.**

Table 4: Trees to be pruned		
Tree no.	Species	Required pruning
H1	Cypress hedge	Removal of a small section of the hedge for the access
T8	Horse Chestnut	Reduction of the crown to clear the building by 2 metres

- Pruning is only required to a small section of the hedge to allow the installation of the driveway and to a section of the crown of T8 by 2m.

- **Root Protection Area incursions**

- Incursions into root protection areas by proposed structures, hard surfacing, and/or services and proposed mitigation for the incursions are shown below at **Table 5**.

Table 5: RPA incursions				
Tree no.	Species	Incursion by	Incursion amount	Mitigation
T8	Horse Chestnut	Corner of house/ cellular Paving	4.8%/6.5%	On site monitoring/ cellular confinement footway

- Above soil surfacing should be installed in accordance with section A.1.5 of B.S 5837.
- Cellular confinement details are shown within the Arboricultural Method Statement (AMS). This goes into the detail of how to layout and install the product to manufacturers specifications. This would be above the current soil level and would be 75mm high without the completed final surface.

- The areas proposed for surfacing with RPAs are to be NO-DIG areas to prevent root disturbance, thus protecting the long-term retention of the trees, some of which are the subject of TPOs, notably T8 just within the curtilage of the property

- **Future pressures**

- **Proximity:** T8 is the closest tree to the proposed build. The crown will need to be reduced at regular intervals in order to prevent potential problems with the north-east corner of the building. This tree is multi-stemmed and located very close to the adjacent footway. It has the potential to damage the footway and it may make sense to remove it now though this is not essential.

- **Apprehension:** The trees adjacent to the site are likely to be regularly inspected for health and safety purposes, as they will be within the local authorities management. Inspection regimes will highlight tree issues following inspections and recommended tree safety works therefore should be undertaken to rectify defects or health and safety concerns to acceptable levels of health and safety, the trees are then more likely to be maintained in a safe condition; therefore, the continued use of the site and the proposed property should not cause undue concern or future pressures.

- **Other considerations**

- Internal Hedging along the rear boundary is currently poor. This is currently being retained, though would benefit from removal and re-planting following the completion of the build. This would have a negligible impact to the site or neighbours as the site is sloping and on the whole reasonably screened by the adjacent greenspace. The surrounding boundary trees and hedging is to be retained to maintain the current balance to the street scene

- Proposed services and drainage have not been confirmed at this stage, there appears to be adequate space for service and drainage routes to be installed outside of RPAs. Should this not be possible an Arboriculturist should be consulted on proposed routes and these must follow NJUG: 4 where the pass-through RPAs of retained trees or hedges.

- Tree removal and pruning will need to be carried out in accordance with British Standard 3998 (2010): Tree work – Recommendations.

- Other tree works, such as supervised excavation within RPAs, will need to be carried out in accordance with British Standards: 5837 (2012) and 3998 (2010).

- **New tree planting**

- Mitigation by tree planting is yet to be confirmed. This should be conditioned by the LPA and shown on a tree planting plan or Landscape plan that shall be submitted as part of the planning application or within set timescales. New trees should be planting and maintained in accordance with BS 8545 (2014): *Trees from nursery to independence in the landscape – Recommendations*.

- **Conclusion**

- Based on the above considerations the arboricultural impacts of this scheme are considered to be low/moderate.

- **Recommendations**

- The impacts on the trees to be retained can be satisfactorily dealt with by appropriate tree protection measures, supervision of sensitive works and site monitoring; an adequately worded planning condition can secure the requirement for the proposed development to be carried out in accordance with the appended AMS and TPP.
- A TPP and an AMS have been appended to this report: A planning condition can be made to ensure that the proposals are constructed in accordance with the TPP and AMS.

ANNEXES A to F – general information

A. KEY TERMS AND ABBREVIATIONS

Arboricultural Impacts Assessment (AIA)	An assessment of the arboricultural impact(s) of the specific proposal on a given area
Arboricultural Method Statement (AMS)	Methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained
Arboriculturist	Person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction.
Arboricultural consultant	Arboriculturist instructed by the Project Manager to oversee the retention and protection of trees adjacent to the development site.
British Standard 5837 (2012): <i>Trees in relation to design, demolition and construction - recommendations</i>	British Standard document outlining best practice and guidelines for the arboricultural and construction industry in relation to developments.
British Standard 3998 (2010): <i>Tree work - Recommendations</i>	British Standard document outlining best practice for Tree Works to the arboricultural industry.
British Standard 8545 (2014): <i>Trees from nursery to independence in the landscape – Recommendations</i>	British Standard document to assist people involved in planning, designing, resourcing, producing, planting and managing new trees in the landscape.
Construction	Site based operations with the potential to affect existing trees
Root Protection Area (RPA)	Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the trees viability, and where the protection of the roots and soil structure is treated as a priority.
Service(s)	Any above or below ground structure or apparatus required for utility provision e.g. drainage, gas supply, water, ground source heat pumps, soak-a-ways, CCTV, telecommunications, water, electric etc.
Structure	Manufactured object such as a building, carriageway, path, wall, Service run, and built or excavated earthworks.
Tree Constraints Plan (TCP)	Scale drawing, informed by descriptive text where necessary, showing the developable area and tree constraints.
Tree protection Plan (TPP)	Scale drawing, informed by descriptive text where necessary, based upon the finalized proposals, showing the trees for retention and illustrating the tree and landscape protection measures.
Veteran tree	Tree that, by recognised criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.

B. REPORT LIMITATIONS

I. Tree survey limitations

J. A. Consulting has been instructed to survey those trees within or directly adjacent to an identified area for development within the properties highlighted demolition/development. Trees located beyond the constraints of the identified development area (i.e. trees which do not overhang the identified area and that are located beyond a distance of up to 12 times their estimated stem diameter as measured at 1.5m above ground level) or trees below 80mm in diameter as measured at 1.5m from ground level, have not been included and development impacts to these trees has not be evaluated.

Off-site or inaccessible trees have only been surveyed from accessible areas; defects may be hidden from view and dimensions may be estimated

The trees were not climbed. No samples of soil, tree tissue, suspected pests and diseases or pathogens were taken during the tree survey.

A full hazard assessment of the trees (including assessment of decay or their defects) has not been undertaken as part of this planning application as is it considered beyond the scope of this report. Any obvious hazards and defects have been identified where relevant in the tree survey schedule; which may also recommend remedial works.

Periodic tree inspections on this site may be undertaken to regularly assess the health and safety of the tree stock. However, this is not considered as part of this report.

Trees are dynamic organisms which undergo structural and physiological change as they continue to grow, age, and in response to changes in their local environment; therefore the findings of the tree survey cannot be fully relied upon after any significant changes to the tree's environment, which includes (but is not limited to); construction pressures (e.g. soil compaction, damage to tree parts, root severance), significant weather events and changes to soil levels or water drainage patterns.

II. Other limitations

This report and the appended plans have been written up based on a site visit to survey the trees, utilisation of tree data capture software, and information that has been provided by third parties.

J. A. Consulting cannot guarantee the accuracies of documents / information provided by third parties and shall not be held liable for any issues that arise from any discrepancies within or between those items.

Any works to trees that are outside of the legal boundaries of the owner would be subject (where relevant by law, statute and common) to the owner's permission or legal right of entry to mitigate a legitimate health and safety concern.

Accuracy of information can only be taken from the day that it was collected; time will alter the state of the trees due to age, environment, weather conditions and other factors.

Detailed ecological considerations are beyond the scope of this report. UK and European wildlife legislation may affect the timing and even prohibit the enhancement of works and operations described in this report. Most of the information regarding wildlife can be found in the Wildlife and Countryside Act 1981 (as amended). It is recommended that consideration is given to the requirement for ecological surveys.

C. PLANNING CONSIDERATIONS

III. The Town and Country Planning ACT (1990)

Section 197 of the Town and Country Planning Act (TCPA, 1990) places an express duty on the Local Planning Authority, when granting planning permission, to ensure whenever appropriate that adequate conditions are imposed to secure the preservation or planting of trees, and that any necessary tree preservation orders (TPOs) are made under section 198 of the Act (DCLG, 2006). Reading Borough Council follows this procedure.

The potential impacts of development on trees, whether statutorily protected (e.g. by a TPO or by their inclusion within a conservation area) or not, is a material consideration that is taken into account in dealing with planning applications.

The presence of a TPO or a conservation area does not mean that the Planning Authority will not agree to trees being removed or pruned as part of the proposals. However, there might be a greater preference to retain and protect those trees that are covered. Furthermore, the authority's consent is not required for carrying out work on trees subject to a TPO or within a conservation area so far as such work is necessary to implement a full planning permission.

- **The National Planning Policy Framework**

Section 11 (Conserving and enhancing the natural environment) of The National Planning Policy Framework (NPPF, 2012) states that: 'planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly Page 27 outweigh the loss.'

- NPPF para 156 - climate change mitigation and adaptation, conservation and enhancement of the natural and historic environment, including landscape
- **Reading Borough Council's Core strategy Document CS.38 Validation Check List for the validation of planning applications**

The Local List asks the following:

Tree survey information will be required on all development sites, apart from change of use not involving works, where there are trees within the site or adjacent to it, including street trees. For householder applications, any proposals involving development within fifteen metres of any tree(s) (on or off-site) should indicate the position, spread and Root Protection Areas of the tree(s) on the application plans.

- **Information required**
- Tree retention/removal plan.
- Retained trees and root protection areas (RPA's) shown on proposed layout.
- Arboricultural Implications Assessment. .
- Location of new tree planting Existing and proposed finished levels.

- Tree protection plan.
- Arboricultural method statement (where applicable). Including details for all special engineering within the Root Protection Area (as determined by the Arboricultural Implications Assessment)
 - Position of existing and proposed services

- **Tree retention & removal**

Retention: Trees can offer many benefits, including the provision of visual amenity, softening or complementing the effect of the built environment, and adding maturity and sales value to new residential developments (CABE, 2005). Trees make places more comfortable in tangible ways by contributing screening and shade, reducing wind speed and turbulence, intercepting snow and rainfall, and reducing glare.

Removal: Consideration should be given to avoid misplaced tree retention; attempts to retain too many or unsuitable trees on a site can result in excessive pressure on the trees during demolition or construction. Likewise, re-development can provide an opportunity to replace individual trees (usually those with limited potential) with species / specimens that are more suited to the existing or proposed setting; thereby providing a basis for long-term tree cover that can coexist harmoniously within the site.

D. TREE CONSTRAINTS

IV. Site layout design

Constraints imposed by trees both above and below ground should inform the site layout design, although it is recognised that the competing needs of development mean that trees are only one factor requiring consideration.

- **The rooting environment**

A soil assessment should determine whether the soil is shrinkable. If it is, trees and other vegetation have the potential to cause indirect damage to structures. Consideration should also be given to NHBC Standards Chapter 4.2 regarding technical requirements and recommendations for foundations when building near trees, hedgerows and shrubs, particularly in shrinkable clay soils.

The RPA is a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the trees viability, and where the protection of the roots and soil structure is treated as a priority.

For single stem trees, the RPA is calculated as an area equivalent to a circle with a radius 12 times the stem diameter as measured at 1.5m above ground level.

For trees with more than one stem, one of the two calculation methods below are used and capped to 707 m².

- a) For trees with two to five stems, the combined stem diameter is calculated as follows:

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

- b) For trees with more than five stems, the combined stem diameter is calculated as follows:

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

The RPA for each tree is initially plotted as a circle centred on the base of the stem. Where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, modifications to the shape of the RPA are made based on assessment of likely root distribution.

The default position should be that structures are located outside the RPAs of trees to be retained. However, where there is an overriding justification for construction within the RPA, technical solutions might be available to mitigate any potential that prevents damage to the tree(s). The cumulative effects of incursions into the RPA, e.g. from excavation for utility apparatus, are damaging and should be avoided.

- **Tree parts**

Surface and buttress roots, the stem, stems and branches of retained trees are all direct constraints on proposed structures and services as well as on working and access space. Care will be needed to make sure that any branch pruning is not excessive and that there is enough space for future canopy growth.

- **Future pressure for removal**

The relationship of buildings to large trees can cause apprehension to occupiers or users of nearby buildings or spaces, resulting in pressure for the removal of the trees. Buildings and other structures should be sited allowing adequate space for a tree's natural development, with due consideration given to its predicted height and canopy spread.

E. TREE PROTECTION

V. Scheme of tree protection

To be in accordance with BS 5837 (2012): *Trees in relation to design, demolition and construction — Recommendations*, the following will normally have to be submitted to the Planning Authority as part of a planning application:

- **Tree protection plan (TPP)**

Indicating the precise location of protective barriers to be erected to form a construction exclusion zone around the retained trees.

The extent and type of ground protection, and any additional physical measures.

- **Arboricultural method statement (AMS)**

Typically addressing some or all the following, incorporating relevant information from other specialists as required:

- a) removal of existing structures and hard surfacing;
- b) installation of temporary ground protection;
- c) excavations and the requirement for specialized trenchless techniques;
- d) installation of new hard surfacing – materials, design constraints and implications for levels;
- e) specialist foundations – installation techniques and effect on finished floor levels and overall height;
- f) retaining structures to facilitate changes in ground levels;
- g) preparatory works for new landscaping;
- h) auditable/audited system of arboricultural site monitoring, including a schedule of specific site events requiring input or supervision.

F. WORKS CITED

- B.S.3998. (2010). *Tree Work - Recommendations*.
- B.S.5837. (2012). *Trees in relation to design, demolition and construction - Recommendations*.
- B.S.8545. (2014). *Trees: from nursery to independence in the landscape - Recommendations*.
- CABE. (2005). *Does money grow on trees?* Commission for Architecture and the Built Environment.
- DCLG. (2006). *Circular 11/95: Use of conditions in planning permission*. Department for Communities and Local Government.
- DEFRA. (2017). <http://www.magic.gov.uk/MagicMap.aspx>. Retrieved from www.magic.gov.uk/:
<http://www.magic.gov.uk/MagicMap.aspx>
- Lonsdale. D. (1999). *Principles of Tree Hazard Assessment and Management: Research for Amenity Trees*. No. 7. The Stationary Office Books.
- Mattheck. C & Breloer. H. (1994). *Field Guide for Visual Tree Assessment (VTA)*. Arboricultural Journal: The International Journal of Urban Forestry, 18:1, 1-23.
- NHBC. (n.d.). *NHBC Standards Chapter 4.2*. National House Building Council.
- NPPF. (2012). *National Planning Policy Framework*. Department for Communities and Local Government.
- TCPA. (1990). *Town and Country Planning Act*.

Appendix 1: Tree Survey Schedule

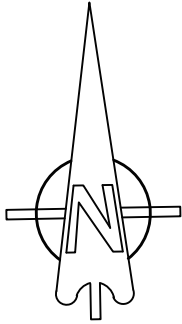
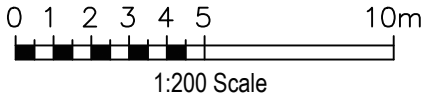
Tree Survey Schedule Key Terms	
Tree no:	Sequential reference number of trees or groups of trees commencing at "1". Prefixed with a letter indicating type: T: Tree. G: Group. H: Hedge.
Name	Species listed by common name.
Height	Estimated height of tree rounded up or down to nearest metre.
Stem	Trunk diameter measured at approx. 1.5m above ground level; or where the trunk forks into separate stems between ground level and 1.5m, measured at the narrowest point beneath the fork, given in millimeters. The number of stems (principal above-ground structural component(s) of a tree that supports its branches) are either shown by the number of entries or by direct reference.
Branch Spread	Branch spread taken at the four cardinal points
Crown Hgt	Clearance of lowest branches above ground level (given in meters)
FSB	Height (meters) and orientation of first significant branch (where orientation is not specified the tree has an even crown break at this height).
Age	Y: Young: Age less than 1/4 life expectancy SM: Semi Mature: 1/4 to 1/2 life expectancy EM: Early Mature: 1/2 to 3/4 life expectancy M: Mature: Over 3/4 life expectancy OV: Over-mature: Mature, and in a state of decline V: Veteran: tree that, by recognized criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.
Physiology	Good: Typical for species and age Fair: Signs of physiological stress or dysfunction; but not significant enough that the tree may not recover. Poor: Signs of physiological stress or dysfunction; significant enough that the tree might not recover. Dead: Dead specimen.
Structure	Good: No significant structural defects. Fair: Significant structural defects; but these are either remediable or do not put the tree at immediate or early risk of collapse. Poor: Significant and irremediable structural defects, such that there may be a risk of early or premature collapse. Hazardous: Significant and irremediable structural defects, such that there is a risk of imminent collapse.
Value	Assessment of the landscape value of the tree; adapted from AA Guidance note 4 Amenity Valuation of trees and Woodlands (D.R Helliwell: 1967) Low: e.g. Trees which cannot be seen from any public vantage point. Trees which can only be seen with difficulty or by a very small number of people. Moderate: e.g. Most trees in woodlands, back gardens, or in groups of trees etc. Individual roadside trees, trees close to busy roads, trees in public parks, close to public footpaths, in grounds of hospitals, colleges etc. High: e.g. Prominent individual trees in well frequented places such as town centres, shopping centres etc. trees which are of crucial importance as the principal feature of a public place. Trees which are of crucial importance as the principal feature of a public place.
ULE	Useful Life Expectancy: Estimated remaining contribution, in years (<10, 10+, 20+, 40+) 0 Dead trees. <10 Less than ten years. 10+ more than ten years. 20+ more than twenty years. 40+ more than forty years
Comments	General comments relating to vitality, structure, value and/or recommendations
Category	BS 5837 categorisation: A: Trees/Vegetation of high quality and value. B: Vegetation of moderate quality and value C: Trees/Vegetation of low quality and value. U: Those in such a condition that they cannot realistically be retained as living trees for longer than 10 years Sub categories (suffix): 1: Trees with mainly arboricultural value, 2: Trees with mainly landscape value, 3: Trees with mainly cultural / conservation value
RPR	Root Protection Area (RPA) as radius (m) from the centre of the trunk
RPA	Root Protection Area (RPA) (m ²)

Tree no.	Name	Height	Stem	Branch Spread	Crown Hgt	FSB	Age	Physiology	Structure	Value	ULE	Comments	Category	RPA Radius	RPA
T1	Lawson cypress (<i>Chamaecyparis lawsoniana</i>)	6m	260mm	N2m E2m S2m W2m	0m	0m	EM	Fair	Fair	Low	20+	Topped tree suppressed by T 3, of limited value.	C (1)	3.1m	30.6m ²
T2	Sycamore (<i>Acer pseudoplatanus</i>)	18m	2 stems @ 450mm	N8m E7m S4m W4m	5m	5m	EM	Fair	Poor	Moderate	20+	Twin stemmed tree that has been heavily reduced, damage to bark on stem at 2.5m north and limb removed at 2.5M southeast. Tight basal union.	C (12)	7.6m	183.2m ²
T3	Weeping willow (<i>Salix X chrysocoma</i>)	10m	480mm	N5m E7m S3m W1m	3m	3m	EM	Fair	Fair	Low	10+	Suppressed tree. One sided crown heavily biased to the north, decay on stem at 2m south at point of old pruning wound. Previously pollarded at 5m.	C (1)	5.8m	104.2m ²
T4	Flowering cherry (<i>Prunus sp.</i>)	4m	45mm	N1m E1m S1m W1m	2m	2m	Y	Good	Fair	Low	40+	New planting on highway verge.	C (1)	0.9m	2.5m ²
T5	Sycamore (<i>Acer pseudoplatanus</i>)	14m	280mm	N5m E3m S5m W1m	3m	3m	EM	Fair	Fair	Moderate	10+	Tree hat has stem decay north at 1m, deadwood in crown and a very tight upward growing habit.	B (12)	3.4m	35.5m ²
T6	Common Hazel (<i>Corylus avellana</i>)	7m	8 stems @ 80mm	N3m E3m S3m W2m	1m	1m	SM	Fair	Fair	Low	20+	Small compact clump of hazel stems of limited value.	C (1)	2.7m	23.2m ²
T7	English oak (<i>Quercus robur</i>)	4m	180mm	N1m E1m S1m W1m	4m	4m	EM	Dead	Poor	Low	0	Dead stem.	U	2.2m	14.7m ²
T8	Horse chestnut (<i>Aesculus hippocastanum</i>)	17m	6 stems @ 260mm	N6m E4m S6m W6m	5m	5m	EM	Fair	Fair	Moderate	20+	Multi stemmed tree growing adjacent to the public footway, restricted root development to the south. Eastern stem is the largest and has an occluded wound at 0.5m. Limited long term potential due to proximity to the footway if retained is liable to cause structural damage.	B (12)	7.6m	183.5m ²
T9	Cherry Laurel (<i>Prunus laurocerasus</i>)	11m	3 stems @ 220mm	N6m E7m S9m W7m	0m	0m	EM	Fair	Fair	Moderate	20+	Typical of species.	B (1)	4.6m	65.7m ²

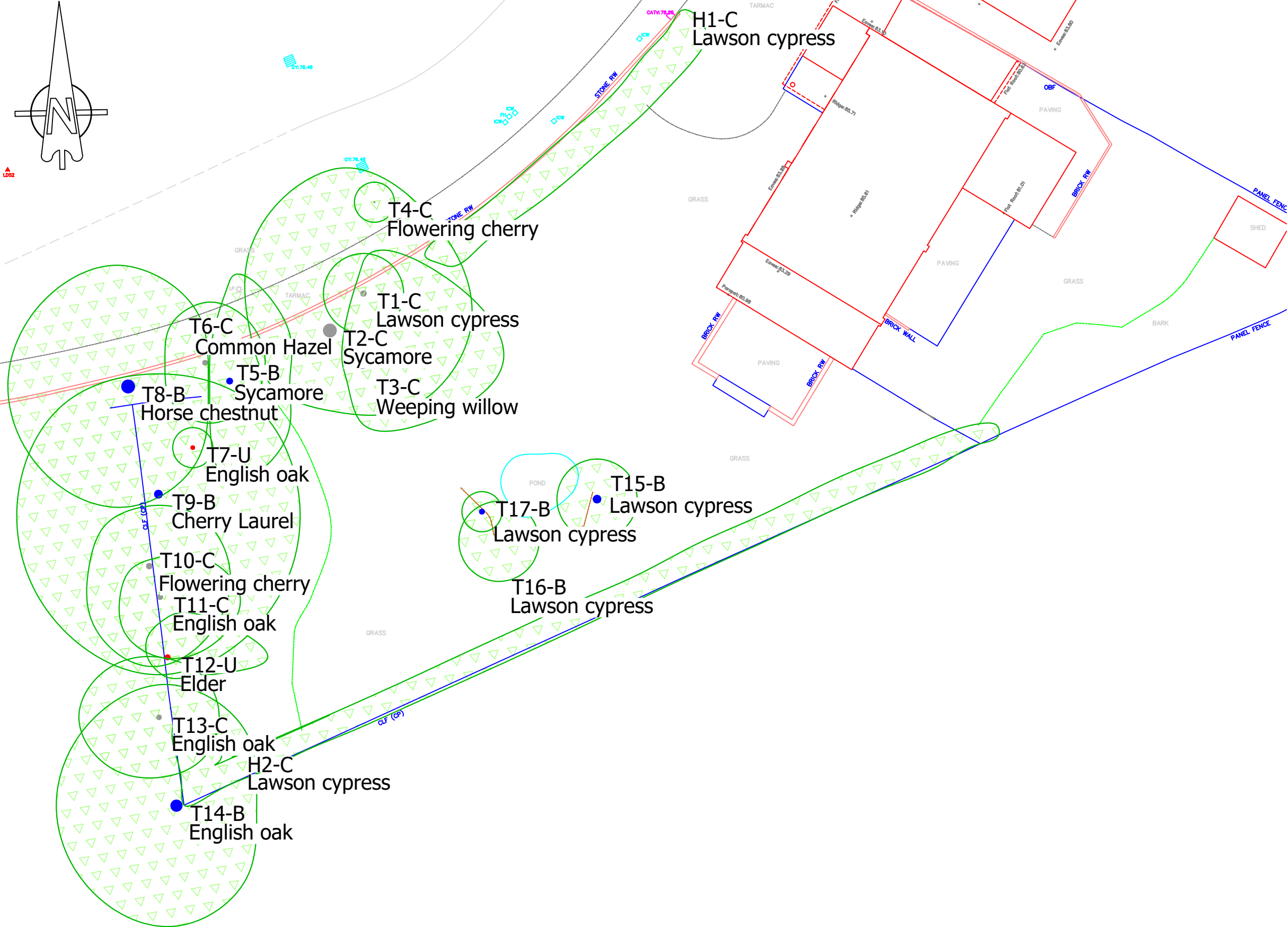
Tree no.	Name	Height	Stem	Branch Spread	Crown Hgt	FSB	Age	Physiology	Structure	Value	ULE	Comments	Category	RPA Radius	RPA
T10	Flowering cherry (<i>Prunus sp.</i>)	15m	270mm	N3m E4m S5m W3m	5m	5m	SM	Fair	Fair	Low	10+	Tree with kink in stem at 1.5m drawn up stem.	C (1)	3.2m	33.0m ²
T11	English oak (<i>Quercus robur</i>)	15m	240mm	N2m E4m S3m W2m	2.5m	2.5m	SM	Fair	Fair	Low	20+	Suppressed tree of limited long term value or potential.	C (1)	2.9m	26.1m ²
T12	Elder (<i>Sambucus nigra</i>)	5m	240mm	N2m E5m S1m W1m	0m	0m	SM	Poor	Poor	Low	<10	Suppressed tree that has collapsed to the west.	U	2.9m	26.1m ²
T13	English oak (<i>Quercus robur</i>)	10m	220mm	N3m E3m S3m W4m	2.5m	2.5m	SM	Fair	Poor	Low	20+	Off site drawn up tree of limited landscape value or potential.	C (1)	2.6m	21.9m ²
T14	English oak (<i>Quercus robur</i>)	16m	2 stems @ 390mm	N6m E4m S6m W6m	2.5m	2.5m	EM	Fair	Fair	Moderate	40+	Twin stemmed offsite tree with ivy covered stem.	B (1)	6.6m	137.6m ²
T15	Lawson cypress (<i>Chamaecyparis lawsoniana</i>)	6m	5 stems @ 170mm	N2m E2m S2m W2m	0m	0m	EM	Fair	Fair	Low	20+	Topped tree adjacent to pond.	B (1)	4.6m	65.4m ²
T16	Lawson cypress (<i>Chamaecyparis lawsoniana</i>)	6m	2 stems @ 170mm	N2m E2m S2m W2m	0m	0m	EM	Fair	Fair	Low	20+	Topped tree adjacent to pond.	B (1)	2.9m	26.1m ²
T17	Lawson cypress (<i>Chamaecyparis lawsoniana</i>)	6m	2 stems @ 170mm	N1m E1m S1m W1m	0m	0m	EM	Fair	Fair	Low	20+	Topped tree adjacent to pond.	B (1)	2.9m	26.1m ²
H1	Lawson cypress (<i>Chamaecyparis lawsoniana</i>)	3m	Avg 90mm	N1m E1m S1m W1m	0m	0m	SM	Fair	Fair	Low	10+	Dying of on the eastern section of the hedge.	C (12)	1.1m	3.7m ²

Tree no.	Name	Height	Stem	Branch Spread	Crown Hgt	FSB	Age	Physiology	Structure	Value	ULE	Comments	Category	RPA Radius	RPA
H2	Lawson cypress (<i>Chamaecyparis lawsoniana</i>)	4m	Avg 90mm	N1m E1m S1m W1m	0m	0m	SM	Fair	Fair	Low	10+	No live lower growth all growth is confined to the top of the hedge.	C (12)	1.1m	3.7m ²

Appendix 2: Tree Survey Plan/Constraints Plan



LD52



Tree categorisation:
In accordance with the cascade chart in *Table 1* of British Standard 5837 (2012) *Trees in relation to design, demolition and construction — Recommendations*

Category U tree ●
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

Category A tree ●
Trees of high quality with an estimated remaining life expectancy of at least 40 years

Category B tree ●
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years

Category C tree ●
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm

KEY:

TRUNK
T1-B — TREE NO. & CATEGORY
Ash — SPECIES
CANOPY EDGE

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Client: Snowstorm Ltd

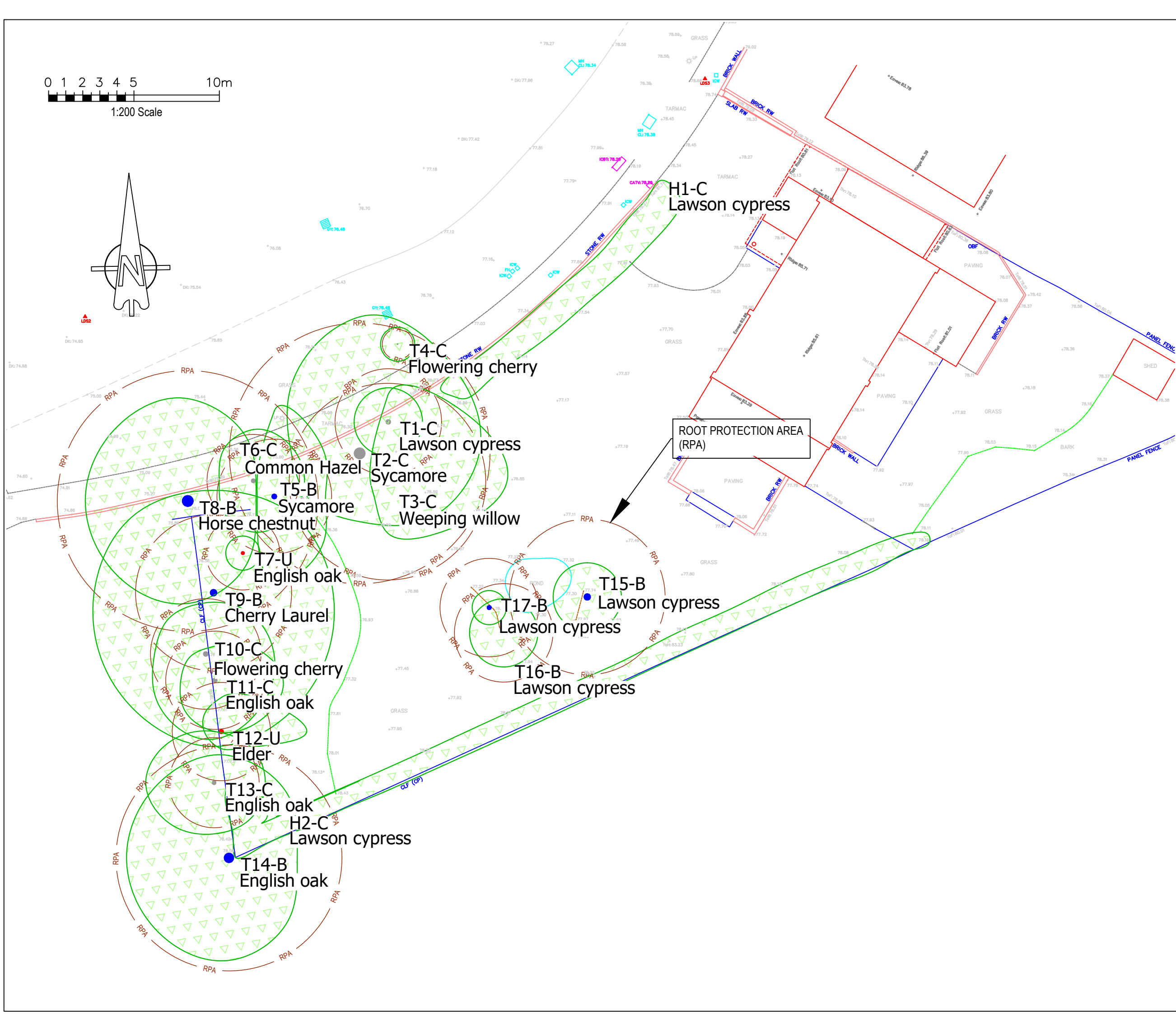
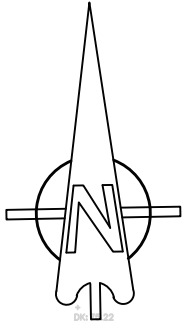
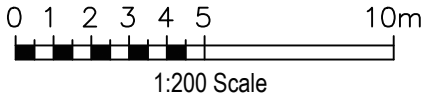
Site Address: 25 Tredegr Road, Caversham,
Reading Berkshire. RG4 8QE

Title: Tree Survey Plan

Drawing Number: TSP 01

Based on: OS plan

Date: 28.01.18 Drawn by: JN Paper Size: A4



Tree categorisation:
In accordance with the cascade chart in *Table 1* of British Standard 5837 (2012) *Trees in relation to design, demolition and construction — Recommendations*

Category U tree ●
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

Category A tree ●
Trees of high quality with an estimated remaining life expectancy of at least 40 years

Category B tree ●
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years

Category C tree ●
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm

KEY:

CANOPY EDGE
ROOT PROTECTION AREA (RPA)
T1-B — TREE NO. & CATEGORY
Ash — SPECIES
● — TRUNK

ROOT PROTECTION AREAS (RPAs):
The RPA is a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.

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Client:	Snowstorm Ltd
Site Address:	25 Tredegr Road, Caversham, Reading Berkshire. RG4 8QE
Title:	Tree Constraints Plan
Drawing Number:	TCP 01
Based on:	OS plan
Date:	28.01.18
Drawn by:	JA
Paper Size:	A4

Appendix 3: Arboricultural Method Statement (with Tree Protection Plan)

ARBORICULTURAL REPORT

AT: 25 Tredegar Road, Caversham.



CLIENT: Snowstorm Ltd

PRODUCED BY: Julian Abraham (AA Tech Cert)

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This report is for the exclusive use of the client and those involved in the submission and approval of the planning application to which the report relates. It may not be sold, lent, hired or divulged to any third party not directly involved in the subject matter without the express consent of J. A. Consulting OR the client.

Arboricultural Method Statement

Report Reference: AMS 01

Site address: 25 Tredegar Road, Caversham, Berkshire. RG4 8QE

Report Produced for: Snowstorm Ltd

Scope and purpose of the report: This report provides an arboricultural method statement, compliant to British Standard (2012): *Trees in relation to design, demolition and construction –Recommendations*. The primary purpose of this report is to detail the methodology for the implementation of the proposed development where it is within root protection areas and/or that has the potential to result in loss of or damage to a tree to be retained.

The report consists:

1. An arboricultural method statement (AMS)

Addressing the following:

- a. installation of temporary protective barriers, ground protection and;
- b. excavations;
- c. installation of new hard surfacing;
- d. preparatory works for new landscaping;
- e. auditable/audited system of arboricultural site monitoring, including a schedule of specific site events requiring input or supervision.

2. A tree protection plan (TPP)

- a. Indicating the precise location of protective barriers to be erected to form a construction exclusion zone around the retained trees.
- b. Showing the extent and type of ground protection, and any additional physical measures.

Date: 28 January 2018

Produced by: Julian Abraham. Tech Cert (Arbor A)

Telephone Number 07811169756

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Table 1: Key Terms and Abbreviations	
Arboricultural method statement (AMS)	Methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained
Arboriculturist	Person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction
Arboricultural consultant	Arboriculturist instructed by the Project Manager to oversee the retention and protection of trees adjacent to the development site.
British Standard 5837 (2012): <i>Trees in relation to design, demolition and construction - recommendations</i>	British Standard document outlining best practice and guidelines for the arboricultural and construction industry in relation to developments.
British Standard 3998 (2010): <i>Tree work - Recommendations</i>	British Standard document outlining best practice for Tree Works to the arboricultural industry.
Competent person	Person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task being approached
Construction	Site Based operations with the potential to affect existing trees
Construction Exclusion Zone	Area based on the root protection area from which access is prohibited for the extent of the project.
Pruning	The removal of living or dead parts of a tree, especially branches, to reduce size, to maintain shape, health, safety, or to regulate growth.
Root Protection Area (RPA)	Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the trees viability, and where the protection of the roots and soil structure is treated as a priority.
Service(s)	Any above or below ground structure or apparatus required for utility provision e.g. drainage, gas supply, water, ground source heat pumps, soak-aways, CCTV, telecommunications, water, electric.etc.
Structure	Manufactured object such as a building, carriageway, path, wall, Service run, and built or excavated earthworks.
Tree protection plan (TPP)	Scale drawing, informed by descriptive text where necessary, based upon the finalized proposals, showing the trees for retention and illustrating the tree and landscape protection measures.

• Introduction

○ Site details

- 25 Tredegar Road, Caversham, Berkshire. RG4 8QE

○ Instruction

▪ J. A. Consulting has been instructed by Snowstorm Ltd, to provide an arboricultural method statement (AMS) in accordance with British Standard BS 5837 (2012): *Trees in relation to design, demolition and construction — Recommendations*, detailing the methodology for the implementation of the proposed development where it is within root protection areas and/or that has the potential to result in loss of or damage to a tree to be retained.

○ Scope & use of report

▪ This report and the accompanying appendices reflect the scope of the instructions, as set out above. The report has been designed to be utilised by interested parties at different stages; from development planning, to demolition and construction and sets out the methodology of tree protection. **Table 2** (below) shows the main interested parties and at what stage this report is to be utilised by each:

Table 2: Main interested parties	
Planning Authority case officer	All Stages
Planning Authority tree officer	
Appointed arboricultural consultant	
Project Manager	
Site manager	
Fencing contractor	Construction
Construction contractors	
Drainage / service providers	

○ Documents provided

▪ The plans and assessment in this report are produced using the following documents:

- Topographic survey
- Proposed site plan 097-P003

• Legal considerations

○ **The Town and Country Planning ACT (1990)**

- Section 197 of the Town and Country Planning Act (1990) places an express duty on the Local Planning Authorities, when granting planning permission, to ensure whenever appropriate that adequate conditions are imposed to secure the preservation or planting of trees, and that any necessary tree preservation orders are made under section 198 of the Act. Reading Borough Council follows this procedure.

- The potential impacts of development on trees, whether statutorily protected (e.g. by a tree preservation order or by their inclusion within a conservation area) or not, is a material consideration that is taken into account in dealing with planning applications.

○ **Breach of planning control**

- A breach of planning control is defined (in section 171A of the Town and Country Planning Act 1990) as: the carrying out of development without the required planning permission; or failing to comply with any condition or limitation subject to which planning permission has been granted.

- A breach of conditions notice requires its recipient to secure compliance with the terms of a planning condition or conditions, specified by the Planning Authority in the notice

- Following the end of the period for compliance, a “person responsible” who has not ensured full compliance with the conditions and any specified steps, will be in breach of the notice and guilty of an offence Section 187A(8) and (9) of the Town and Country Planning Act 1990. Summary prosecution can be brought in the Magistrates’ Court for the offence of contravening a breach of condition notice.

○ **Stop notices**

- Temporary stop notices are a powerful enforcement tool that allows Planning Authorities to act very quickly to address some breaches of planning control, such as unauthorised activities close to trees. A temporary stop notice may prohibit a range of activities.

- The effect of issuing a temporary stop notice will be to halt the breach of planning control, or the specified activity immediately. This can have immediate serious consequences on a business. It is an offence to contravene a temporary stop notice, and a Planning Authority will usually consider prosecution as soon they have evidence of an offence

- A person guilty of an offence is liable on summary conviction, to a fine not exceeding £20,000; and on conviction on indictment, to an unlimited fine. Summary prosecution can be brought in the Magistrates’ Court for the offence of contravening a breach of condition notice.

• Typical tree related issues on construction sites

○ Threats to trees on construction sites

▪ Development sites hold a multitude of dangers for trees. For the protection of trees to be assured this AMS and the appended TPP has to be strictly adhered to; even a momentary lapse in the scheme of tree protection can lead to irreversible tree damage.

○ Damage to the root system

▪ The part of a tree most susceptible to damage is the root system, which, because it is not immediately visible, is frequently ignored.

▪ Within a short distance of the stem, the roots are highly branched, to form a network of small-diameter woody roots, which can extend radially for a distance much greater than the height of the tree. All parts of the root system are vulnerable to damage. Once roots are damaged, water and nutrient uptake is restricted until new ones have grown. Mature trees recover slowly, if at all, from damage to their woody roots.

▪ Damage to, or death of, the root system affects the health, growth, life expectancy and safety of the entire tree. The effects of such damage might only become evident several years later. Damage can be the result of a number of minor but compounding factors that accumulate over time. Materials such as uncured concrete, diesel oil and vehicle washings can all damage roots and lead to adverse impacts on the tree.

○ Damage to other tree parts

▪ Damage to the stem and branches of a tree is not usually sufficient to kill the tree directly, but can make it unsafe by affecting the dynamics and growth of the tree, or by initiating long-term decay. Such damage can also be disfiguring. The attachment of notice boards, cables and other utility apparatus can all damage trees, as can using trees as anchors for winching.

○ A consistent approach

▪ It is vital to the protection of the trees on this site that the site manager brings this method statement to the attention of all relevant parties and that if there is any confusion on the identification of trees, or specifications within, that contact must be made with the appointed arboricultural consultant for clarification.

▪ A typical example is where a service subcontractor, who is not aware of this document or the requirements within, moves protective barriers and carries out soil excavation within RPAs without appropriate supervision; thereby damaging the roots of the tree.

● Planning and communication

○ Planning (sequence of works)

- The following actions shall be undertaken, in the order specified in the Sequence of Works at **Table 3** (below). Unless otherwise agreed with the Planning Authority.

Table 3: Sequence of Works			
Order	Works	Relevant section	Arb consultant input required?
1	Pre-start site meeting	4	Yes
2	Tree removal & pruning	6	-
3	Erection of protective fencing	7	Yes
4	Installation of temporary ground protection	8	Yes
5	Start development works	-	-
6	Supervised excavations	10	Yes
7	Install above soil surfacing	11	Yes
8	Clearance of machinery/materials from site	-	-
9	Removal of protective fencing and ground protection	9	Yes

○ Communication

- The Project Manager will appoint an arboricultural consultant to oversee tree protection details and any sensitive works adjacent to retained trees.
- Before any site clearance (including demolition) or construction works takes place the Project Manager will arrange an onsite pre-start site meeting to go over this report and any issues that could arise during works in relation to trees; to be attended by the site manager, the fencing contractor, the groundwork contractor(s) and the arboricultural consultant; the Planning Authority Tree Officer shall be invited to attend. This is likely to be a condition of planning consent.
- At the pre-start meeting:
 - Contact details shall be exchanged
 - The scheme of tree protection as outlined in this document and the appended tree protection plan shall be discussed, so that all parties are clear on:
 - the specifications of the tree protection
 - the chronological order of events
 - any special requirements (such as supervised excavations within RPAs).
 - It may be the case that previously unforeseen modifications to this statement arise from discussion during the meeting; in this case any modifications will have to be approved by the Planning Authority tree officer before being circulated to all parties in writing.

- It is vital to the protection of the trees on this site that the site manager brings this method statement to the attention of all relevant parties and if there is any confusion on the identification of trees or specifications within, contact must be made with the appointed arboricultural consultant for clarification.
- The Project Manager will immediately inform the arboricultural consultant if at any time during the project the site manager, the fencing contractor or the groundwork contractor(s) are replaced, so that the arboricultural consultant can meet with the relevant person and make clear the requirements of arboricultural method statement.

• Monitoring and supervision

○ Site monitoring

- Once the tree protection barriers have been installed, the arboricultural consultant will undertake a visit to inspect them.
- If the tree protection measures comply with the AMS and TPP, the arboricultural consultant will 'sign off' the tree protection and will copy this to the Project Manager; in this way it can be shown that the planning conditions are being adhered to and will allow the Planning Authority to sign off any relevant conditions.
- If the specifications or locations of these items does not comply with this AMS and TPP, the arboricultural consultant will inform the relevant party of what adjustments are required and if necessary will undertake a further visit to check that these have been carried out. Once compliance has been made this will signed off (as per the previous paragraph).
- Throughout the construction process the arboricultural consultant will undertake regular visits to monitor the condition of the trees and effectiveness of the protective measures; timings to be agreed at the pre-start meeting.

○ Supervision of sensitive works

- The arboricultural consultant shall be given at least two working days' notice of any activity that requires his attendance (see the sequence of works at **Table 3**) notably T8.
- If there are any revised drawings that show details of works within RPAs or beneath the crowns of trees, these are to be sent in advance to the arboricultural consultant so that he can advise on any impacts to trees and how this might relate to planning conditions (in case further approval from the Planning Authority will be required before being carried out).
- The arboricultural consultant will make records of all monitoring and supervisory visits, and will forward these to the client and Planning Authority.

• Trees to be removed and trees to be pruned

○ Trees to be removed

- The trees to be removed are listed at below at **Table 4**; the locations of which are shown on the appended TPP.

Table 4: Trees to be removed	
Tree no.	Species
T1	Lawson Cypress
T2	Sycamore
T3	Weeping Willow
T4	Cherry
T5	Sycamore
T6	Common Hazel
T7	English Oak
T8	Horse Chestnut
T9	Cherry Laurel
T10	Flowering Cherry
T12	Elder
T15	Lawson Cypress
T16	Lawson Cypress
T17	Lawson Cypress

○ Trees to be pruned

- Trees to be pruned are shown below at **Table 5**; the locations of which are also shown on the appended TPP.

Table 5: Trees to be pruned		
Tree no.	Species	Pruning
H1	Cypress hedge	Removal of a small section of the hedge for the access
T8	Horse chestnut	Reduction of the crown to clear the building by 2 metres

- Tree removal and pruning shall be carried out in accordance with British Standard 3998 (2010): *Tree work – Recommendations*.

• Protective fencing

○ Protective fencing

- Protective fencing shall be installed at the locations shown on the appended TPP and to the specification within BS 5837: 2012, Section 6.2.2 (at **Figure 1** below).
- The protective fencing shall consist of 2m tall welded mesh panels on rubber or concrete feet; panels shall be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The distance between the fence couplers shall be at least 1m and shall be uniform throughout the fence. The panels shall be supported on the inner side by stabilizer struts, normally attached to a base plate secured with ground pins. Where the fencing is to be erected on retained hard surfacing or it is otherwise unfeasible to use ground pins, e.g. due to the presence of underground services, the stabilizer struts shall be mounted on a block tray.

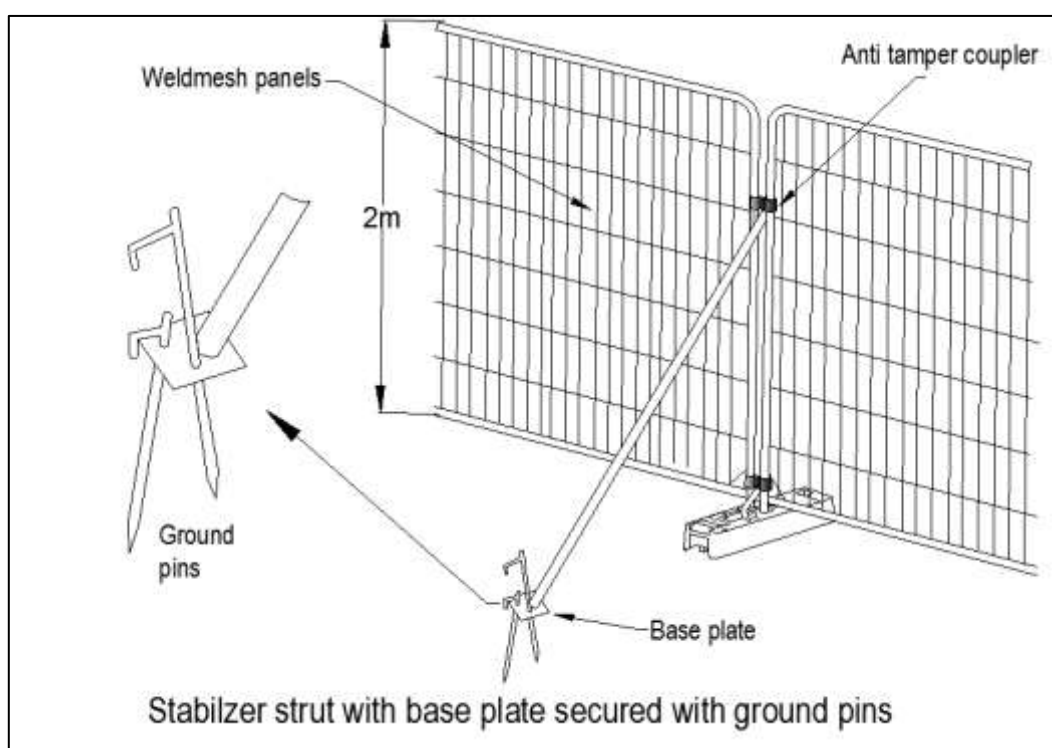


Figure 1: Protective fencing; alternative Specification (Based on Figure 3, BS 5837: 2012)

- Notices stating “Tree Protection Zone, Keep Out!” will be attached with cable ties to every fourth panel; examples of suitable signage are shown appended to this method statement.
- In the event that the protective barriers are accidentally damaged or knocked out of position, those sections will be repaired or replaced as soon as practicably possible.

• Ground protection

○ Temporary ground protection

▪ Temporary ground protection shall be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil, so that the tree root functions remain unimpaired.

▪ **For pedestrian movements only**, a single thickness of scaffold boards shall be placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane.

▪ **For pedestrian-operated plant up to a gross weight of 2t**, proprietary, inter-linked ground protection boards (or similar) shall be placed on top of a compression-resistant layer (150 mm depth of woodchip), laid onto a geotextile membrane.

▪ **For wheeled or tracked construction traffic exceeding 2t gross weight**, interlinking aluminium or metal track way shall be placed on top of a compression-resistant layer (200mm depth of woodchip), laid onto a geotextile membrane

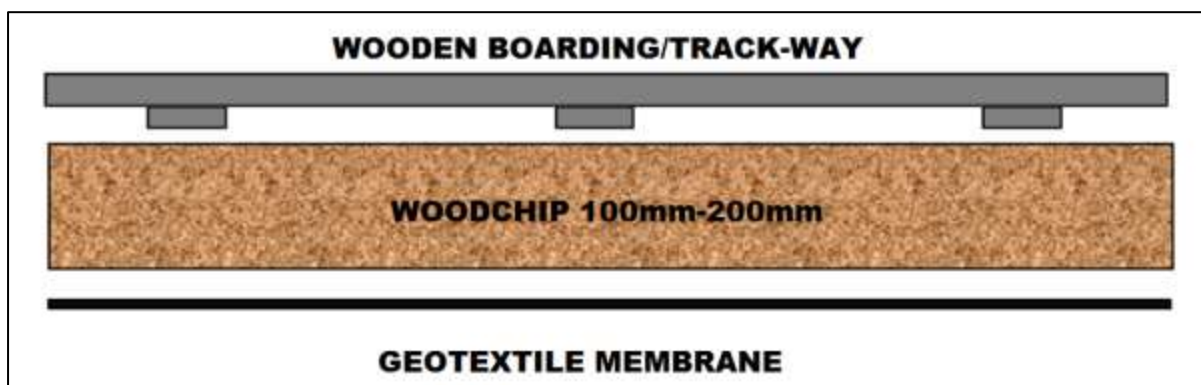


Figure 2: Simple diagram of generic ground protection

• Construction Exclusion Zones

- Once the protective barriers are in situ, the arboricultural consultant will visit the site and inspect them.
- The protective barriers shall form the edge of Construction Exclusion Zones (CEZs) and will restrict access into these areas. **The barriers and the areas it protects must be considered as sacrosanct, it must, under no circumstances be moved without the explicit permission of the approved arboricultural consultant.**
- No construction activities will take place within the CEZs:
 - No personnel, plant or vehicles shall enter
 - No storage of equipment or materials
 - No clearance of existing vegetation
 - No changes to soil levels (including topsoil)
- Areas for the storage of materials shall be outside the CEZs. Oil, bitumen, diesel, and cement shall not be stored, mixed or discharged onto the ground within 10m of the trunks of any trees.
- No notice boards, or power or telephone cables, shall be attached to any of the trees.
- No fires shall be lit within RPAs of trees to be retained or within 10m of the canopies of any trees to be retained (whichever is the greater).
- The physical tree protection will not be moved or re-located without the approval of the arboricultural consultant. Once all construction works are completed the arboricultural consultant will be informed of when it is intended to remove the fencing and ground protection.

• Excavations within RPAs

○ Trees that require excavations within RPAs

- Trees that require supervised excavation of the soil within RPAs are shown below at **Table 6**.

Table 6: RPA incursions				
Tree no.	Species	Incursion by	Incursion amount	Mitigation
T8	Leyland cypress	Horse Chestnut	4.8%/6.5%	On site monitoring/ cellular confinement footway

○ Supervised excavation

- Excavation within RPAs is on relevant within the minor incursion of T8 (4.8%) to facilitate the construction of the foundation of the northwest corner of the foundation.
- This involves using hand held tools to dig the first 600mm depth of excavation within RPAs.
- All roots encountered shall be cut cleanly by the arboricultural consultant with secateurs or a sharp pruning saw.
- Excavation beneath 600mm depth (or greater if the arboricultural consultant has deemed it appropriate) may be undertaken by an excavator working from outside the RPAs or on appropriate temporary ground protection, if this is supervised to prevent any retained roots being damaged.
- The faces of all excavations that contain exposed roots shall be covered with hessian sacking and be kept moist at all times; they shall not be left exposed to frost, wind or direct sunlight. The hessian shall be removed immediately before any backfilling.

• Above soil surfacing within RPAs

- Trees that require above soil surfacing within RPAs
- Trees that require above soil surfacing within RPAs are shown below at **Table 7**.

Table 7: Trees that require above soil surfacing within RPAs		
Tree no.	Species	Structure
T8	Horse Chestnut	Footway to the north and west of the house

- The section(s) of proposed hard surfacing located within RPAs shall be constructed to the specification given below, in accordance with the recommendations of Section 7.4 of BS 5837 (2012). An illustration of these principles can be found at **Figure 3** below.¹

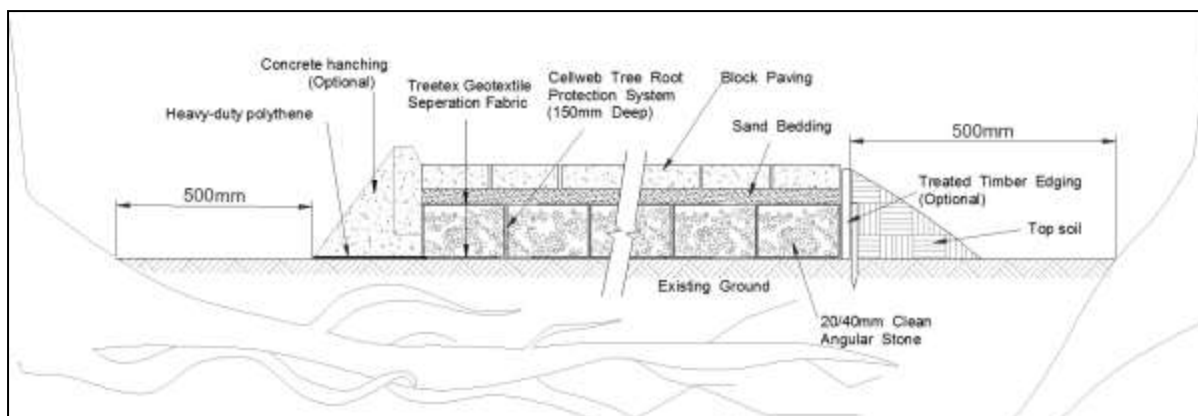


Figure 3: Illustration of a typical above-soil hard surface next to trees.

- The proposed hard surface shall be installed above existing ground levels.
- When preparing the ground within RPAs the following shall be observed:
 - No stripping of turf or topsoil
 - Non-woody vegetation and shrubs shall be cut to ground level and grubbed out using hand held tools
 - the existing soil levels shall not be lowered
 - no digging shall be undertaken
- Construction shall be undertaken in dry weather (and least prone to compaction).
- The proposed hard surfacing shall be constructed in layers (as shown in table 8 below):

Table 8: Specification for above soil surfacing		
Sequence	Specification	
1	Geotextile membrane	A permeable geotextile membrane (e.g. 'Treetex T300') shall be laid on the soil. If de-icing salt is to be used on the new surface an impermeable geotextile membrane shall be used instead (directing run-off away from the trunk of the tree). • The membrane shall be secured in place with pins (or

¹ If you are unsure of this specification please make direct contact with the appointed arboricultural consultant who will be able to give detailed advice.

		similar) struck into the ground.
2	Edge supports	Edge supports shall be above soil surface • Either directly on top of the geogrid, on a concrete haunching, or • Sleepers, • If concrete haunching is used an impermeable membrane is to be laid beneath. • Soil may be banked up to the edge supports.
3	Cellular confinement system	A cellular confinement system ('geoweb') shall be laid onto the geotextile membrane. • A structural engineer shall specify the type and grade cellular confinement system to account for expected loads. • Typical standard cell widths are 200mm; the following uses are accompanied by minimum cell depths: ○ Footpath: 75mm cell depth ○ Parking bay: 100mm cell depth ○ Driveway: 150mm cell depth ○ Road: 200mm cell depth • The cellular confinement system shall be filled with an angular aggregate with a particle size of between 20mm and 40mm. • If vehicles are used to tip the aggregate into position they shall not drive onto unprotected RPAs (including unfilled cell web); they may drive onto aggregate filled cell web if the depth of cell is suitable for the weight of vehicle.
4	Second layer of permeable geotextile	A second layer of permeable geotextile membrane shall be laid on top of the geoweb
5	The final wearing course	The final wearing course shall be porous. brick block for parking, porous tarmac for the roadway, Gravel for the drying area

• Fencing, landscaping and reinstatement

○ Fencing, landscaping and reinstatement

▪ Currently fencing has not been proposed though should this be a later required the procedure as set out below will be followed.

▪ Digging of holes (for fence posts etc.) shall be done by hand using hand tools only. If roots or clumps of 25mm diameter and above are encountered they shall be retained and protected; the position of the proposed post will be re-located. All roots exposed shall be back-filled with sharp sand.

▪ Excavated holes are to be filled with a heavy gauge plastic liner (such as a rubble sack). The post is to be placed in the bag and the bag filled with concrete.

▪ Weather boards are to be fitted and top section of fencing to be constructed or slid in place depending on whether the fence is panel pre-formed or hand made on site.

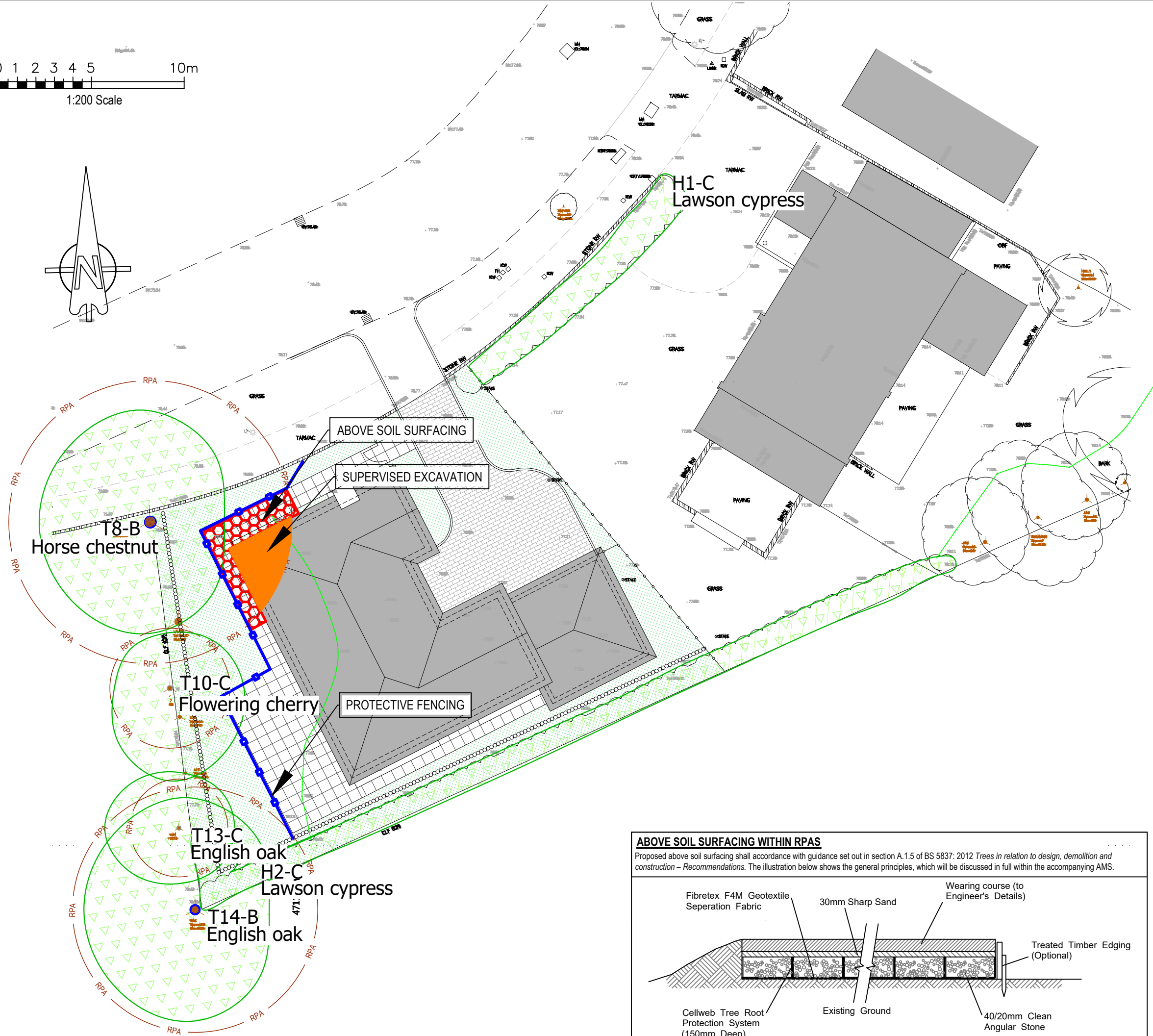
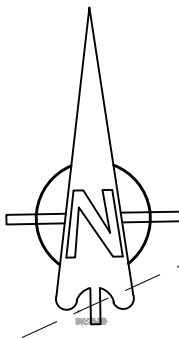
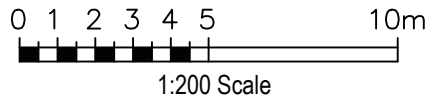
▪ All protective barriers must remain in place until the construction activity is finished and there is no realistic risk of damage to the protected soil surfaces.

- Final fencing, soft landscaping and reinstatement shall only be undertaken after all the protective fencing and ground protection has been removed. It is important to note that great care is needed by all the contractors to avoid damage to the trees.
- After the removal of the tree protection and final landscaping works the arboricultural consultant shall make an assessment of the condition of the underlying soil. It may be the case that regardless of the protective measures that soil compaction has occurred in the vicinity of existing trees.
- Potential remedial works may include sub-soil aeration using compressed air, and the addition of other materials, preferably of a bulky, organic nature (but excluding peat), to improve structure. Heavy mechanical cultivation such as ploughing or rotavation should not occur within RPAs.
- Any cultivation operations should be undertaken carefully by hand in order to minimize damage to the tree, particularly the roots. De-compaction measures include forking, spiking, soil augering and tilled radial trenching. Care should be taken during such operations to minimize the risk of further damage to tree roots.
- Soil compaction shall be avoided around existing vegetation, including trees, and in areas where new planting or seeding is proposed: No plant shall enter or be used within RPAs, which specifically includes rotovators.
- There shall be no changes to soil levels within the RPAs of trees unless previously agreed or part of this planning permission.

Appendix 1: Example of tree protection signage



Appendix 2: Tree Protection Plan/Tree Removal Plan



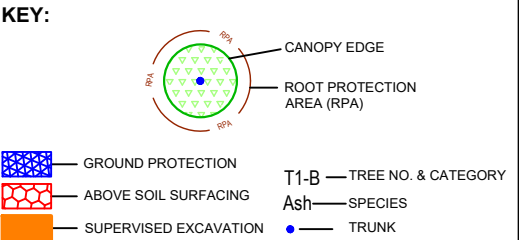
Tree categorisation:
In accordance with the cascade chart in *Table 1* of British Standard 5837 (2012) *Trees in relation to design, demolition and construction — Recommendations*

Category U tree ●
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

Category A tree ●
Trees of high quality with an estimated remaining life expectancy of at least 40 years

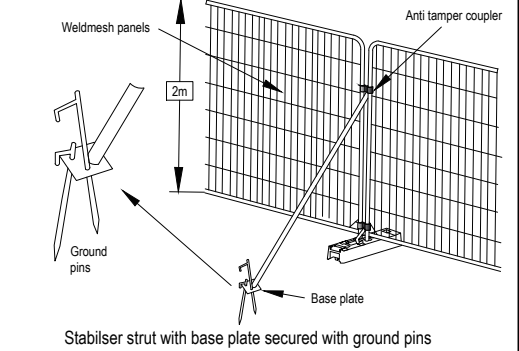
Category B tree ●
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years

Category C tree ●
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm



PROTECTIVE FENCING - alternative specification

Protective fencing shall consist of a scaffold framework in accordance with *figure 3* of British Standard 5837 (2012); comprising 2m tall welded mesh panels on rubber or concrete feet. Onto this, weldmesh panels shall be securely fixed with wire or scaffold clamps joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The distance between the fence couplers shall be at least 1m and shall be uniform throughout the fence. The panels shall be supported on the inner side by stabiliser struts, attached to a base plate secured with ground pins.



EXCAVATION WITHIN RPAS

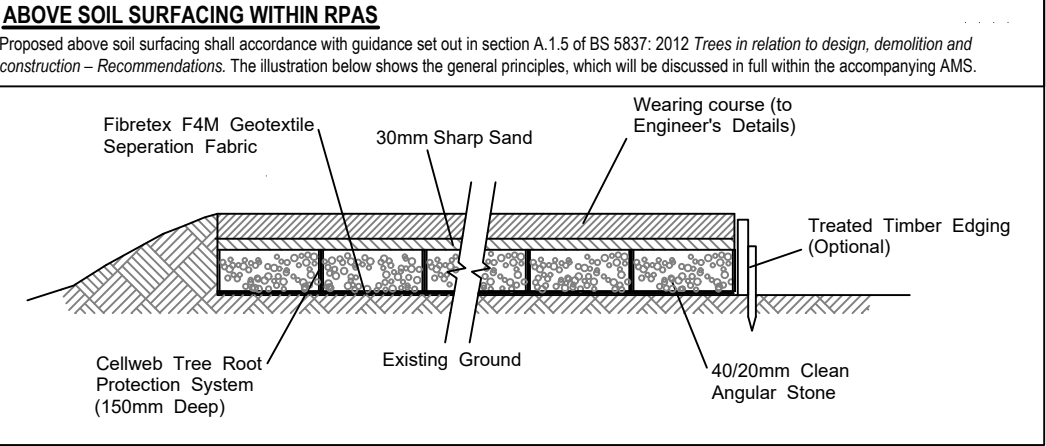
For the first 600mm of soil, excavation within root protection areas (RPAs) shall be carried out carefully using hand held tools, under direct supervision of the arboricultural consultant.

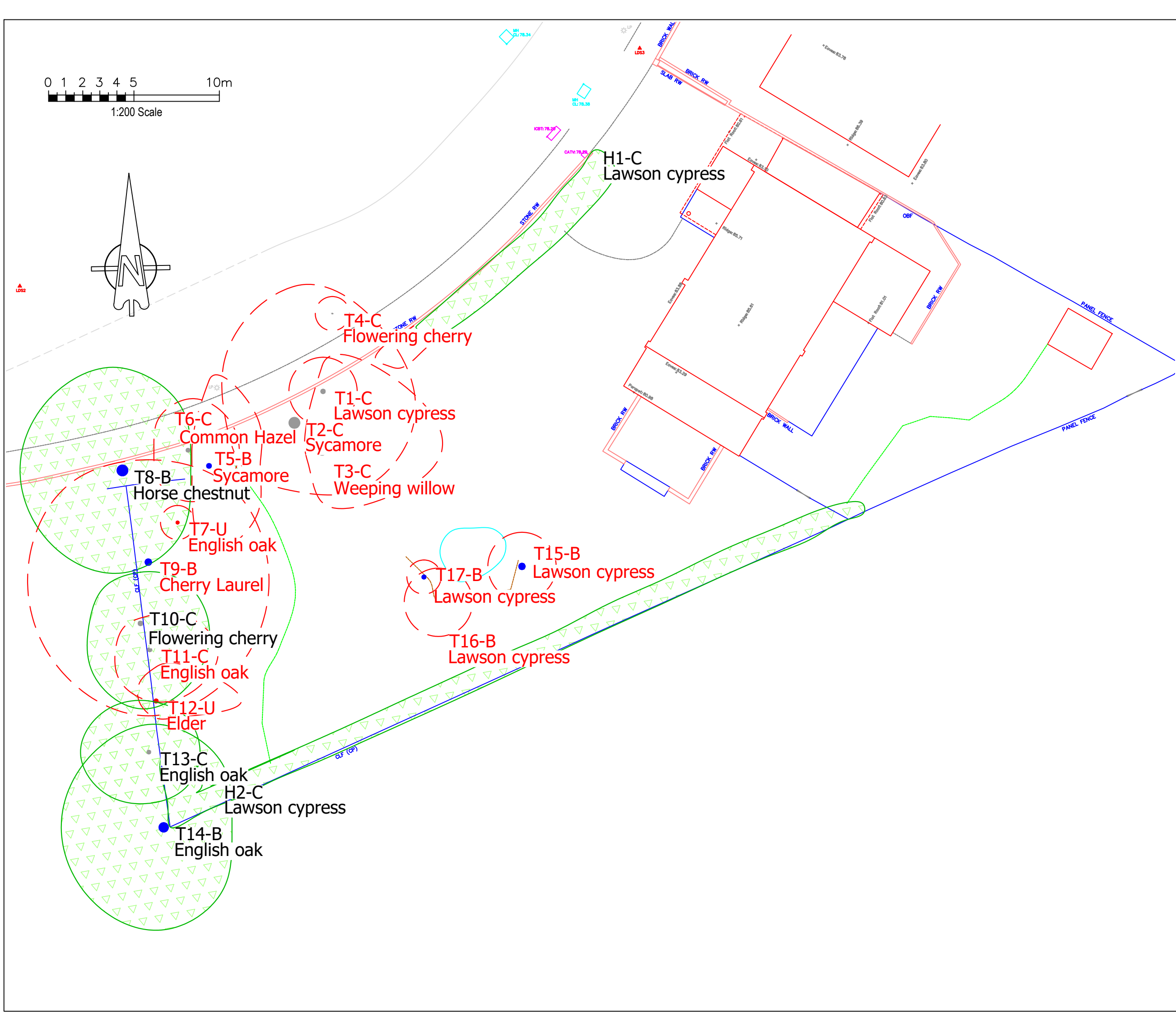
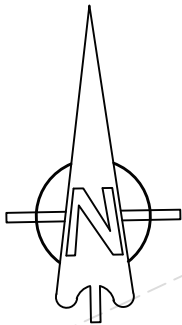
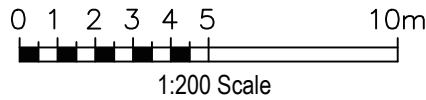
Roots or clumps of roots smaller than 25mm diameter; shall be pruned back, making a clean cut with a suitable sharp tool (e.g. bypass secateurs or handsaw). **Roots occurring in clumps or of 25mm diameter and over;** shall only be severed by the arboricultural consultant if it is considered that this action will not lead to significant detriment to the trees' health or safety.

Roots, whilst exposed, shall immediately be wrapped or covered by hessian to prevent desiccation and to protect them from rapid temperature changes. Any wrapping shall be removed prior to backfilling, which will take place as soon as possible. Prior to backfilling, retained roots shall be surrounded with topsoil or un-compacted sharp sand (builders' sand will not be used because its high salt content is toxic to tree roots), or other loose inert granular fill, before soil or other suitable material is replaced. This material shall be free of contaminants and other foreign objects potentially injurious to tree roots.

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Client:	Snowstorm Ltd
Site Address:	25 Tredgr Road, Caversham, Reading Berkshire. RG4 8QE
Title:	Tree Protection Plan
Drawing Number:	TPP 01
Based on:	OS plan
Date:	28.01.18
Drawn by:	JA
Paper Size:	A4





Tree categorisation:
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Trees of moderate quality with an estimated remaining life expectancy of at least 20 years

Category C tree ●
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm

KEY:

CANOPY EDGE
ROOT PROTECTION AREA (RPA)

TREE TO BE REMOVED

T1-B — TREE NO. & CATEGORY
Ash — SPECIES
● — TRUNK

— PROTECTIVE FENCING

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