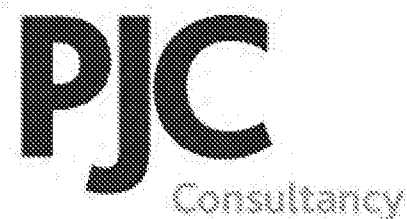


Initial Arboricultural Survey

Land North of:
Stakers Farm
North End Road
Yapton

3 May 2017



PJC ref: 4372/17-01

This report has been prepared by
PJC Consultancy Ltd
on behalf of
Granite Gate Ltd

Prepared by	Owen Allpress BSc(Hons) M.Arbor.A Owen has received both an FdSc and a BSc (Hons) in Arboriculture and is a professional member of the Arboricultural Association. Working in the industry for nearly 10 years, Owen has extensive experience in arboricultural contracting, consultancy and business management.
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1 INTRODUCTION

1.1 **Instruction:** PJC Consultancy has been instructed by Granite Gate Ltd to provide an arboricultural survey of Land North Of Stakers Farm, Yapton.

1.2 **Brief:** PJC Consultancy has been commissioned to undertake an initial arboricultural survey following the guidelines set out in BS5837: 2012 '*Trees in relation to design, demolition and construction – Recommendations*'.

1.3 **Scope of this report:** This report is concerned with all significant trees located within the property boundaries of the site. Additionally, trees located around the curtilage of the site have also been surveyed when they are considered likely to have the potential to impact on the development (in relation to root and crown protection or foundation design).

1.4 **Purpose of report:** This survey has been undertaken to record the condition and value of all significant trees at the site as well as the material constraints they pose on the development. The information in this report should be used to guide the design proposals.

1.5 **Documents and information provided:** The following documents were provided by the client to produce this report:

- Drawing ref. Topographical survey 17036-02-T-E

2 SITE VISIT AND SURVEY METHODOLOGY

2.1 Site visit: A site visit was carried out on 29th March 2017. The weather conditions at the time were adequate to carry out a comprehensive assessment of trees on site.

2.2 Tree information: The following measurements and information were recorded in the Tree Survey Schedule for each individual tree (average dimensions are recorded for groups):

- Tree reference number. (T=tree, G=group, H=hedgerow, W=woodland block). Tree numbers suffixed with PA on the Tree Constraints Plan indicate the trees location was not included on the site plan provided so the tree's position was approximated on site.
- Species (common and scientific name).
- Overall tree height (m).
- Stem diameter (mm) per stem or average diameter for multi-stemmed trees with six or more stems.
- Branch spread (m) measured to the four cardinal points.
- Existing height (m) above ground level of lowest significant branch and direction of growth (for individual trees only).
- Existing height (m) above ground level of canopy.
- Age class (young, semi mature, early mature, mature, over mature or veteran).
- Physiological condition (good, fair, poor).
- Structural condition (good, fair, poor).
- Comments (general description of tree including any notable features).
- Preliminary management recommendations (prescriptions for tree management processes based on the current land use and not related to the proposed development).
- Tree categorisation (see below).
- Root protection area (m²).
- Root protection radius (m).

2.3 Tree categorisation: The condition and value of each tree was evaluated based on the current land use. Each tree or tree group has been awarded either category A, B, C or U and a sub category of either 1,2 or 3 or a combination of the sub categories.

2.4 Tree categorisation summary:

- A – Trees of good condition or high value, with a predicted life span in excess of forty years.
- B – Trees of moderate condition or value, with a predicted life span in excess of twenty years.
- C – Trees of poor condition or low value, with a predicted life span in excess of ten years.
- U – Trees of such impaired condition that they cannot realistically be retained as living trees in the context of the current land use for more than ten years.

2.5 Tree sub categorisation summary:

- 1 – Trees have mainly arboricultural value, e.g. trees of good condition, form and vitality or rare tree species.
- 2 – Trees have mainly landscape value, e.g. trees of landscape prominence, that serve to screen unsightly views or that are required for privacy.
- 3 – Trees with mainly cultural value including conservation, e.g. commemorative trees, trees of historical significance, trees of ecological significance or veteran trees.

2.6 Each tree can only be categorised as A, B or C but may comply with more than one sub category. A cascade chart further explaining how tree categorisation is decided is included in Appendix 3.

2.7 **Root protection areas:** Each tree's stem diameter was recorded, and applied to the formula found in Appendix 4 to establish its root protection area. A root protection area represents a calculation of the minimum area of root growth required to support the tree, not the total rooting area.

2.8 The root protection areas are plotted onto the Tree Constraints Plan in Appendix 1, and recorded in the Tree Survey Schedule in Appendix 2. These are represented as a circle on the plan (unless significant rooting constraints are present), and are colour coded depending on the category the tree has been awarded. Where existing site conditions/features are present that are deemed likely to have affected the root morphology, the root protection areas have represented as a polygon of equivalent size.

2.9 The disturbance of a tree's root system can result in crown dieback and even death of the tree. Roots are used to support the tree structurally and act as transport for water and nutrients. Direct damage such as root severance can lead to ill health, as can compaction of the soil by construction traffic, heavy plant and storage of materials. Changing the nature of the surface above the growing medium, (i.e. from porous to non-porous), can alter the resources available to the tree, which in turn can lead to its decline.

2.10 The root protection areas must be left free from excavation and disturbance, and protected from compaction or contamination during any proposed works. The majority of root growth is usually found within the top meter of soil. As such, even shallow disturbance within root protection areas can potentially have a significant impact on the trees.

2.11 **Limitations of site visit:** The survey methodology was restricted to a visual tree assessment from ground level. No tree climbing or ground investigation was carried out for this report. Where existing site constraints are present such as ivy covered trees, a very dense under-storey, or where trees are located on third party land to which access was not granted, tree dimensions were estimated by eye as accurately as possible.

3 SITE DETAILS AND SURVEY FINDINGS

3.1 Site location: The site is located to the west of North End Road and more broadly to the northwest of Yapton village centre. The site is bordered to the northeast by Yapton C of E Primary School, to the east and south by agricultural buildings and residential dwellings and to the north, south and west by agricultural land. The location of the site within its environs can be seen in figure 1 below



Figure 1: Location of Site and Environs

3.2 Site layout: The site consists primarily of a large open paddock with farm buildings located to the southwestern corner outside of the site. At the entrance, hard-standing surfaces form a driveway to access the farm from North End Road. Few trees exist at the site, with the majority located at the existing entrance to the farm outside of the site with some younger planted trees within the grazing paddocks.

3.3 Further information for each tree can be viewed in the Tree Survey Schedule in Appendix 2.

3.4 Statutory tree protection: Arun District Council's online mapping service was accessed on 4th April 2017 to ascertain the presence of tree related restrictions at the site. A group TPO ref TPO/Y/1/10 exists outside of the site boundary at the frontage of the existing farm entrance to the south along North End Road. Any persons proposing to undertake tree works must check the status of these trees with the local authority and gain necessary consent before works are undertaken.

3.5 Financial penalties and/or criminal proceedings can result if tree works are carried out on a protected tree without consent. The entirety of the tree is protected, both above and below ground.

3.6 Tree categorisation summary: The table below summarises the category of trees recorded across the site. Further information can be found about each tree within the Tree Survey Schedule in Appendix 2.

Table 1: Tree categorisation summary

Categorisation	Individual tree	Tree group	Hedgerow
A	-	-	-
B	5	5	1
C	2	-	-
U	1	-	-
Total	8	5	1

4 CONCLUSIONS

4.1 To comply with BS5837: 2012, it is recommended that an arboricultural impact assessment be produced when the proposed layout has been finalised. The arboricultural impact assessment should include a schedule of trees to be retained and removed, evaluate the likely effects of construction works on retained trees including post development pressures and provide recommendations on mitigation measures to be implemented. It should also include a Tree Retention Plan.

4.2 As far as possible new buildings and areas of hard surfacing should be located outside of the root protection areas of retained trees. In certain situations, engineered solutions are available to allow construction within the root protection areas. Further input from an arboriculturalist should be sought regarding their site-specific viability before these methods are relied upon.

4.3 Over-shading of gardens and dwellings for prolonged periods, nuisance caused by leaf/fruit drop or honeydew drip (particularly onto footpaths, parking areas or roof guttering) and an over-bearing presence of large trees can result in significant pressure from future residents to carry out harsh remedial pruning works or to remove trees post development. All of these factors should be considered at the design stage.

4.4 Allowance should be made for future canopy growth of both existing and newly planted trees. Trees growing in areas of limited space may require regular future pruning works. The suitability of different species for regular crown reductions, the affect on their amenity value and the cost of future tree works should be considered.

4.5 The final design should show service locations and their routing. New utilities should be located outside of the trees root protection areas where they are underground and outside of the anticipated area of mature crown spread where above ground. If this is not possible, recommendations outlined in NJUG10 '*Guidelines for the planning, installation and maintenance of utilities in proximity to trees*' should be followed. Advice should also be sought from the project arboriculturalist.

4.6 Where tree removal is necessary to facilitate the wider regeneration benefits associated with development, a tree replacement strategy could be implemented to mitigate tree loss. If further tree planting does occur, consideration should be given to species selection (in relation to form and potential size) and planting locations to ensure their successful integration into the new development.

5 OTHER CONSIDERATIONS

5.1 Trees should be checked for protected species before works are undertaken. It is against the law to disturb bats or their roosts under the Conservation of Habitat and Species Regulations. Nesting birds are protected by the Wildlife and Countryside Act. If protected species are discovered, Natural England should be contacted for advice.

5.2 The tree works contractors should carry out all tree works to BS3998: 2010 '*Tree works – recommendations*', as modified by research that is more recent. They should also carry relevant, adequate and up to date insurance.

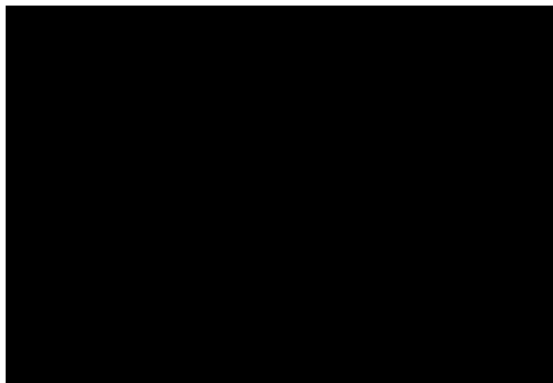
5.3 It is also recommended that all tree works be carried out by an Arboricultural Association approved contractor. Approved contractors are expected to work to industry best standards, and the Arboricultural Association website contains contact details and information on engaging a suitable contractor.

5.4 The trees at this site were assessed for their condition and safety in relation to the average range of weather conditions that the region experiences. Any weather events that exceed the average norm cannot be predicted, and so their effects are not considered within this report.

5.5 The views and opinions contained within this report are entirely those of the author.

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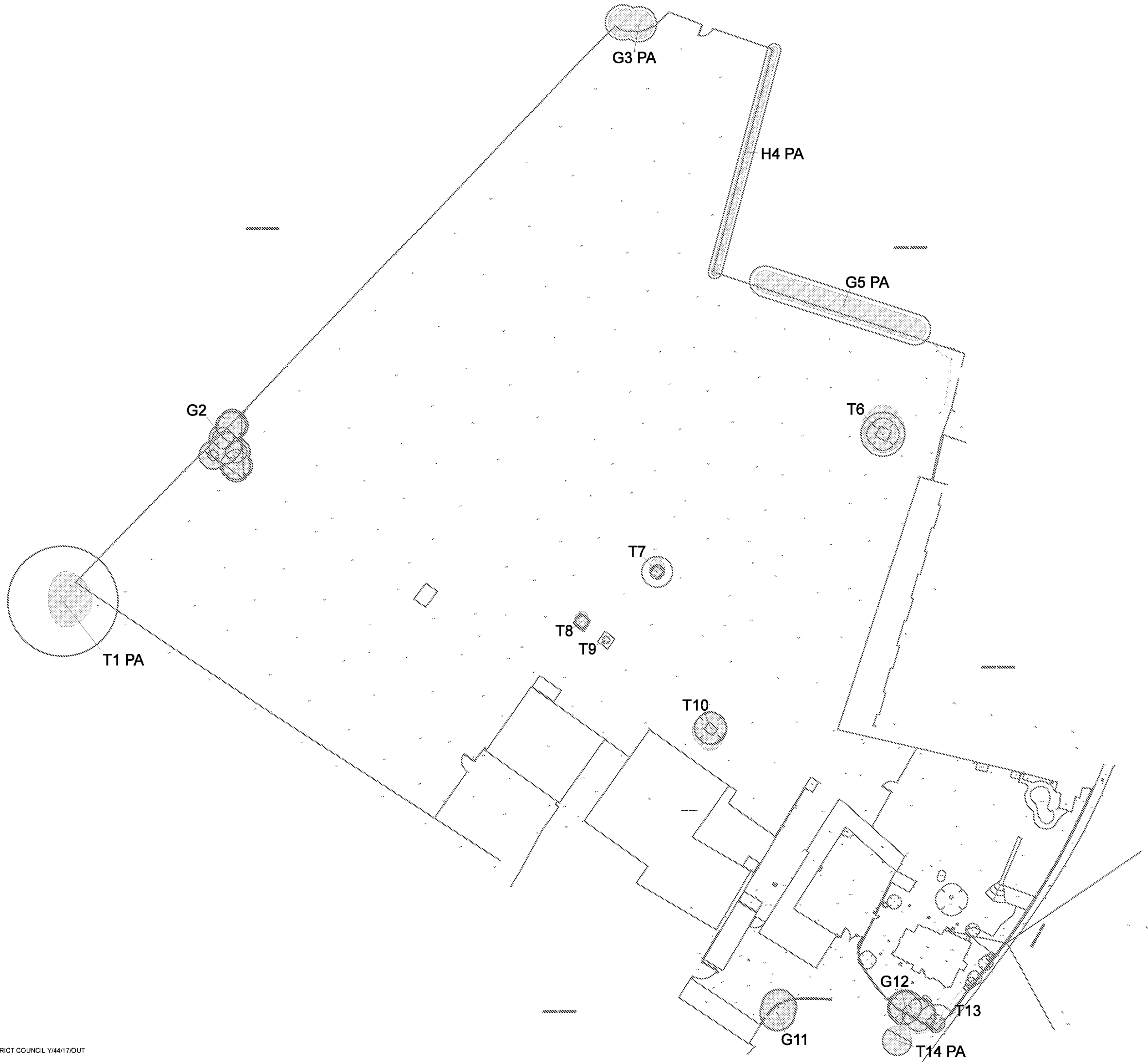


Author: Owen Allpress

Date: 3 May 2017

APPENDIX 1

Tree Constraints Plan



- Key:**
- RPA for CAT B* tree
 - RPA for CAT C* tree
 - RPA for CAT U* tree
 - Tree canopy

** Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.*

Appendix 2, (Tree Survey Schedule) contained within the arboricultural report ref. no. PJC/4372/17-01 contains further information for each tree.

This drawing should be viewed in colour.

Drawing no: PJC/4372/17/A	Rev: 01	Sheet number: 1 of 1
Client and site: Future Planning Ltd		
Land North of Stakers Farm North End Road Yapton		
Drawing title: Tree Constraints Plan		
Date drawn: 30/03/2016		
Scale: 1:1000 at A3		
Drawn by: AE	Checked by: NB	

APPENDIX 2

Tree Survey Schedule

Tree Survey Schedule

				Client: Granite Gate Ltd Site: Stakers Farm, Yapton Survey date: 29th March 2017 Surveyor: Adam Earl							T: Individual tree or shrub G: Group of 2 or more trees H: Hedgerow W: Woodland block		
Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Preliminary management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T1	Monterey Cypress (Cupressus macrocarpa)	10	1800	N: 8 E: 8 S: 7 W: 4	Crown: 3 N Branch: 2 E	Over Mature	Poor	Fair	Third party tree. Extensive dieback to south. Southern stems dead standing.	No recommendations on date of survey.	U	707.8	15.0 Capped
G2	English Oak, Ash, Hawthorn	Up to 7	Up to 320	N: 4 E: 4 S: 4 W: 4	Crown: 1 Av Branch: 2 Av	Early Mature	Good	Good	Crown lifted to 2m. Some limbs crossing/rubbing causing death of limb.	No recommendations on date of survey.	B2	46.4	3.8
G3	Ash (Fraxinus excelsior), Hornbeam (Carpinus betulus)	Up to 5	Up to 400 Est.	N: 4 E: 4 S: 4 W: 4	Crown: 2 Av Branch: 0 E	Mature	Good	Good	Third party tree group. Multistem trees. No visible major defects.	No recommendations on date of survey.	B2	72.5	4.8
H4	Field Maple (Acer campestre), Hazel (Corylus avellana)	2	Up to 150	N: 1 E: 1 S: 1 W: 1	Crown: 0 Av Branch: 0 Av	Mature	Good	Good	Third party hedgerow. Screens site from school. Pruned as formal hedge by flail.	No recommendations on date of survey.	B2	10.2	1.8
G5	Weeping Willow, Alder, Silver Birch	Up to 9	Up to 350 Est.	N: 3 E: 3 S: 3 W: 3	Crown: 2 Av Branch: 2 Av	Mature	Good	Good	Third party tree group. Planted tree stock in school grounds.	No recommendations on date of survey.	B2	55.5	4.2
T6	Ash (Fraxinus excelsior)	8	500	N: 8 E: 6 S: 5 W: 6	Crown: 2 N Branch: 2 N	Mature	Good	Good	Crown lifted to 2m. Open grown form.	No recommendations on date of survey.	B1/2	113.3	6.0

Tree Survey Schedule

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Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Preliminary management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T7	European Lime (Tilia x europaea)	4	350 Comb.	N: 4 E: 2 S: 2 W: 2	Crown: 0 Av Branch: NA	Early Mature	Good	Good	Multistem from base. Crossing/rubbing limbs. Constricted by fence surrounding tree to prevent grazing.	No recommendations on date of survey.	B2	55.5	4.2
T8	Horse Chestnut (Aesculus hippocastanum)	3	130	N: 3 E: 2 S: 2 W: 2	Crown: 0.5 Av Branch: 1 E	Early Mature	Good	Good	No visible major defects.	No recommendations on date of survey.	C2	7.7	1.6
T9	Horse Chestnut (Aesculus hippocastanum)	2	90	N: 1 E: 1 S: 1 W: 1	Crown: 0.5 Av Branch: 0.5 Av	Semi Mature	Good	Good	No visible major defects.	No recommendations on date of survey.	C2	3.7	1.1
T10	Beech (Fagus sylvatica)	6	370	N: 4 E: 4 S: 6 W: 5	Crown: 2 Av Branch: 2 S	Early Mature	Good	Good	Open grown form.	No recommendations on date of survey.	B1/2	62.0	4.4
G11	Alder (Alnus glutinosa)	9	Up to 390	N: 5 E: 5 S: 5 W: 5	Crown: 1 E Branch: 2 N	Mature	Good	Good	Adjacent to flint wall. Root growth visible beneath hard standing to north of wall.	No recommendations on date of survey.	B2	68.9	4.7
G12	Cherry (Prunus sp.)	6	Up to 400	N: 5 E: 5 S: 5 W: 5	Crown: 2 Av Branch: 1 Av	Mature	Good	Good	Planted garden trees. Pruned over garden to north.	No recommendations on date of survey.	B2	72.5	4.8

Tree Survey Schedule

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Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Preliminary management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T13	Western Red Cedar (<i>Thuja plicata</i>)	8	410 Est.	N: 2 E: 2 S: 2 W: 2	Crown: 0 Av Branch: NA	Mature	Good	Good	Visible from road frontage. No visible major defects.	No recommendations on date of survey.	B1/2	76.2	4.9
T14	Hazel (<i>Corylus avellana</i>)	4	300 Comb.	N: 4 E: 3 S: 3 W: 3	Crown: 0 Av Branch: NA	Mature	Good	Good	Contorted hazel growing within stool. Visible from road frontage.	No recommendations on date of survey.	B2	40.8	3.6

APPENDIX 3

Cascade Chart for Tree Quality Assessment

Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of their current land use for longer than 10 years	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after the removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <i>Note Category U trees can have existing or potential conservation value which it might be desirable to preserve</i>			Red
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	Green
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remedial defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher value collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural	Blue
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	Grey

APPENDIX 4

Root Protection Area Formulas

CALCULATING THE RPA

For single stemmed trees

$$\text{RPA(m}^2\text{)} = \frac{(\text{stem diameter (mm)} @ 1.5 \text{ m x } 12)^2 \times 3.142}{1000}$$

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

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

For trees with more than five stems, the combine stem diameter is calculated as follows:

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

APPENDIX 5

Photographs



Photograph 1 – Existing mature trees at main entrance hard standing surfaces within some RPAs.



Photograph 2 – View toward existing paddock showing young trees within.