

Arboricultural Survey
Land at Yapton
Ford Lane
West Sussex

*Report compiled by:
Nick Betts
HND Forestry M.Arbor.A*

PJC CONSULTANCY LTD

PJC Ref No: PJC/3214/13

Summary

This report was commissioned to satisfy the requirements of arboricultural issues defined by planning policy, at the request of Paul Collins of Strutt and Parker LLP.

The majority of the trees at the site are located on the site boundaries. These vary in quality but the majority fall within the B to C categories as defined by BS5837:2012.

Objectives of this report

My involvement in this project can be defined by the following objectives:

To provide a schedule of the existing trees that are situated in areas that are likely to be potentially affected by the proposed construction project.

To classify the existing trees using the process defined by BS5837: 2012 '*Trees in relation to design, demolition and construction – Recommendations*'.

To provide arboricultural guidance on protection measures to be implemented during the construction process, and prevent future conflict between trees and structures.

To promote the retention of trees wherever feasible and appropriate.

CONTENTS

- 1 Introduction
- 2 Site visit and observations
- 3 Appraisal
- 4 Recommendations
- 5 Conclusions
- 6 Other considerations
- 7 Implementation of Works
- Appendices

1 INTRODUCTION

1.1 **Brief:** I have been commissioned by Paul Collins of Strutt and Parker LLP to provide an arboricultural survey for land at Yapton, West Sussex.

1.2 **Documents and information provided:** I was provided with the following documents relating to the site:

- Drawing ref. Topographical Survey

1.3 **Scope of this report:** This report is only concerned with the trees within the property boundaries of the site, or in areas that have the potential to be affected by construction works.

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

1.5 **Qualifications:** I have received a Higher National Diploma in Forestry and am a professional member of the Arboricultural Association. I have over ten years experience in the arboricultural industry, working in both the commercial and private industries. I began as a feller and became a tree surgeon before progressing into consultancy.

2 SITE VISIT AND OBSERVATIONS

2.1 **Site visit:** I carried out a site visit on 3rd June 2013. The weather conditions at the time were dry and bright with a light south westerly breeze. The visibility was good.

2.2 **Brief site description:** The site is situated on Ford Lane to the north east of Yapton. The surrounding land use is comprised of arable land to the north and east with residential properties to the south and west. The site itself consists of an arable field.

2.3 **Identification and location of trees:** The trees are not number tagged but their locations are marked on the Tree Constraints Plan in Appendix 1.

2.4 **Tree observations:** I visually inspected the trees from within the boundaries of the property. The survey methodology was restricted to a visual assessment. The height, crown spread and crown clearance for each tree was estimated to the nearest metre. The DBH (stem diameter at breast height) was measured to the nearest millimetre.

2.5 **Limitations of the Survey:** Existing tree positions were shown on the drawings provided. The positions of trees on the Tree Constraints Plan in Appendix 1 should be checked on site, prior to construction.

3 APPRAISAL

3.1 The trees were assessed and categorised using the cascade chart in BS5837: 2012 *Trees in relation to design, demolition and construction – Recommendations*. Their dimensions were recorded, and their positions plotted on the Tree Constraints Plan in Appendix 1. The Tree Survey Schedule in Appendix 2 contains more detailed information for each tree.

3.2 The categorisation of trees is based on a number of factors. The initial category is U for trees that are in such a condition that they cannot realistically be retained as living trees in the context of the current land use for more than ten years. Category U trees do not necessarily need to be removed if they do not conflict with the proposed development or are not dangerous. The remaining trees are then assessed for their arboricultural, landscape and historical, (or cultural) contribution. This assessment takes into account defects and previous pruning to put the trees into A, B and C categories. The highest categorisation is category A, with the lowest being category C. Category C trees are not normally retained if they pose a constraint to development. The cascade chart further explaining the above is included in Appendix 3.

3.3 A total of nineteen trees, tree groups and hedges were surveyed and included in the Tree Survey Schedule. One tree was categorised as A with twelve categorised as B and six categorised as C. The predicted contribution of a small number of trees within a larger group is less than ten years, leading to its categorisation as U.

3.4 The majority of trees are located around the site boundaries. No trees are located on the northern boundary with Ford Road, with individual trees running in a north to south orientation on the eastern boundary. These comprised of juvenile elm at the northern end of the site, some of which were dead or dying as a result of Dutch elm disease. The majority of the trees consist of mature sycamore, English oak and whitebeam, and most have been categorised as B2 individuals.

3.5 The trees on the western part of the site largely consist of Leyland cypress grown to form screens around the adjacent properties and buildings. The majority of these have been pruned heavily resulting in the trees forming a hedge rather than growing as individuals. As a result they have been categorised as C2.

3.6 The adjoining property at the northern end of the site named The Old Cottage has two significant tree and tree groups on its boundary with the site. They consist of a mature goat willow and a group of mature mixed conifers, categorised as B1 and C2 respectively. The only tree within the site comprises of a mature large leafed lime close to the foot path that crosses the site. It has been categorised as an A1 individual due to its arboricultural and landscape value.

4 RECOMMENDATIONS

4.1 Each tree's DBH was recorded, and applied to the formula found in Appendix 4. The resulting dimensions equal each tree's Root Protection Areas that are plotted on to the Tree Constraints Plan in Appendix 1, and added to the Tree Survey Schedule in Appendix 2. These are represented as a circle on the plan, and are colour coded depending on the category they were classed in using the cascade chart in Appendix 3.

4.2 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 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.

4.3 The root protection areas must be left free from excavation and disturbance, and protected during any proposed works. Protection should be in the form of fencing as defined in Appendix 5, and signs affixed as shown in Appendix 6.

4.4 The majority of tree area located in areas that could be retained as part of any development, or included in areas such as back gardens. The exception to this is the mature lime located within the site. Any design should also incorporate this tree as it provides significant visual amenity.

4.5 The elms at north eastern end of the site should be removed as they are currently affected by Dutch elm disease. Some of the trees are dead and dying, and it is highly likely that the remaining trees will be infected in the near future.

4.6 Any final design must show service locations and their routing. These must be located outside of the trees RPA's where they are underground and outside of the anticipated area of mature crown spread where above ground.

4.7 A pre-commencement meeting with all parties and the Local Authority Arboricultural Officer is recommended to agree working methods before any works are undertaken. All contractors should be briefed about tree related site factors as part of the site safety briefing.

4.8 A system and programme of onsite monitoring by the appointed arboricultural consultant should be agreed with the Local Authority Arboricultural Officer, if it is deemed necessary. Record sheets of monitoring site visits should be available for inspection by all parties, and forwarded to a designated employee of the Local Authority.

5 CONCLUSIONS

5.1 Although a number of small trees and woody shrubs have been recommended for removal if they pose a constraint to development, their loss should not be detrimental to wider landscape or have an adverse impact on local visual amenity. Their loss could be mitigated by replanting with suitable species in an appropriate location during the soft landscaping phase of construction. If this is carried out consideration should be given to their location to avoid conflict with the proposed building and associated services.

6 OTHER CONSIDERATIONS

6.1 No Tree Preservation Order (TPO) protects the trees on the site on the date of this report. 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.

6.2 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.

6.3 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.

6.4 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.

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

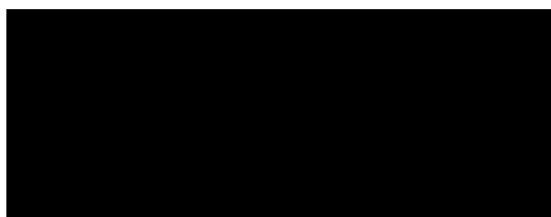
7 IMPLEMENTATION OF WORKS

7.1 The contractors should carry out all tree works to BS 3998 *Recommendations for Tree Works* (2010) as modified by research that is more recent. They should also carry relevant, adequate and up to date insurance.

7.2 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.

Contact details

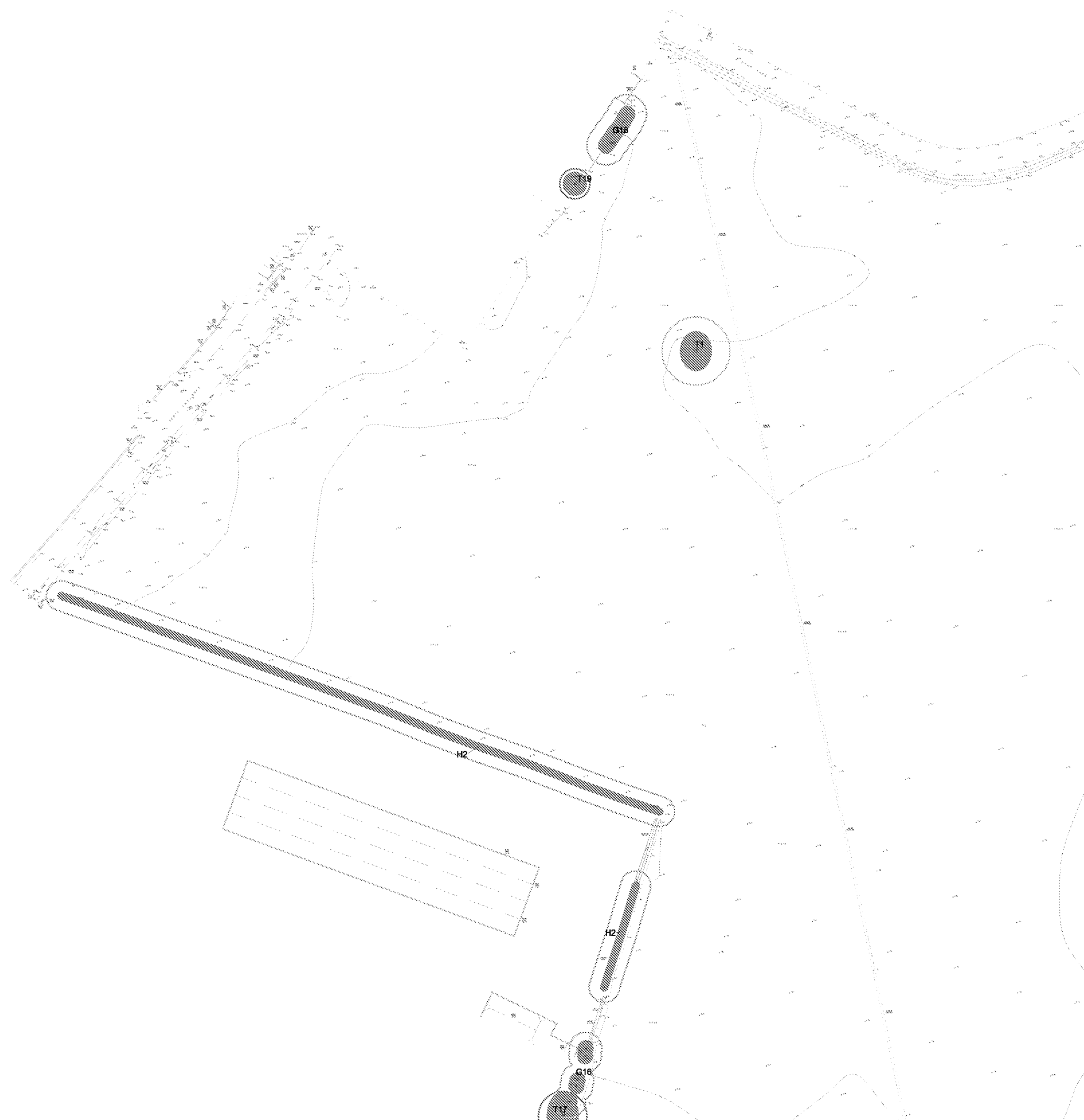
PJC Consultancy Ltd
Chapter House
Priesthawes Farm
Hailsham Road
Polegate
East Sussex
BN26 6QU



Author: Nick Betts

Date: 13th June 2013

APPENDIX 1 Tree Constraints Plan and Tree Shadow Plan



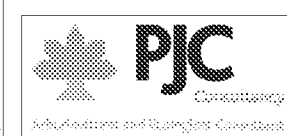
Key:

-  RPA for CAT A Tree*
-  RPA for CAT B Tree*
-  RPA for CAT C Tree*
-  Tree canopy

****Trees categorised in accordance with BS5837: 2012 'Trees in relation to design, demolition and construction - Recommendations'.***

Appendix 2, (Tree Survey Schedule) contained within the arboricultural report ref. no. PJC/3214/13 contains further information for each tree.

This drawing should be viewed in colour.



Site: Land at Yapton, West Sussex
Client: Struut and Parker
Surveyor: Nick Betts
Date Drawn: 12/06/13
Scale: 1:1000 at A3
Drawing Number: PJC/3214/13/A
Drawing Title: Tree Constraints Plan

Key:



RPA for CAT A Tree*



RPA for CAT B Tree*



RPA for CAT C Tree*



Tree canopy

****Trees categorised in accordance with BS5837: 2012 'Trees in relation to design, demolition and construction - Recommendations'.***

Appendix 2, (Tree Survey Schedule) contained within the arboricultural report ref. no. PJC/3214/13 contains further information for each tree.

This drawing should be viewed in colour.



Site: Land at Yapton, West Sussex

Client: Struut and Parker

Surveyor: Nick Betts

Date Drawn: 12/06/13

Scale: 1:1000 at A3

Drawing Number: PJC/3214/13/B

Drawing Title: Tree Constraints Plan



RPA for CAT A Tree*

RPA for CAT B Tree*

RPA for CAT C Tree*

Tree canopy

This drawing should be viewed in colour.



Drawing Title: Tree Constraints Plan



PJC Consultancy
Chapter House, Priestthawes Farm, Hailsham Road, Polegate, East Sussex, BN26 6QU
☎ 01323 768155 ✉ 01323 768244 🌐 www.pjcconsultancy.com



Key:

-  Tree shadow
-  Tree canopy

Appendix 2, (Tree survey Schedule) contained within arboricultural report ref. PJC/3214/13 contains further information for each tree.

Tree shadows plotted using guidance set out in BS5837: 2012 - Trees in relation to design, demolition and construction - Recommendations. The trees existing height is used to calculate the radius of the shadow segment, plotted from north west to east as an arc.

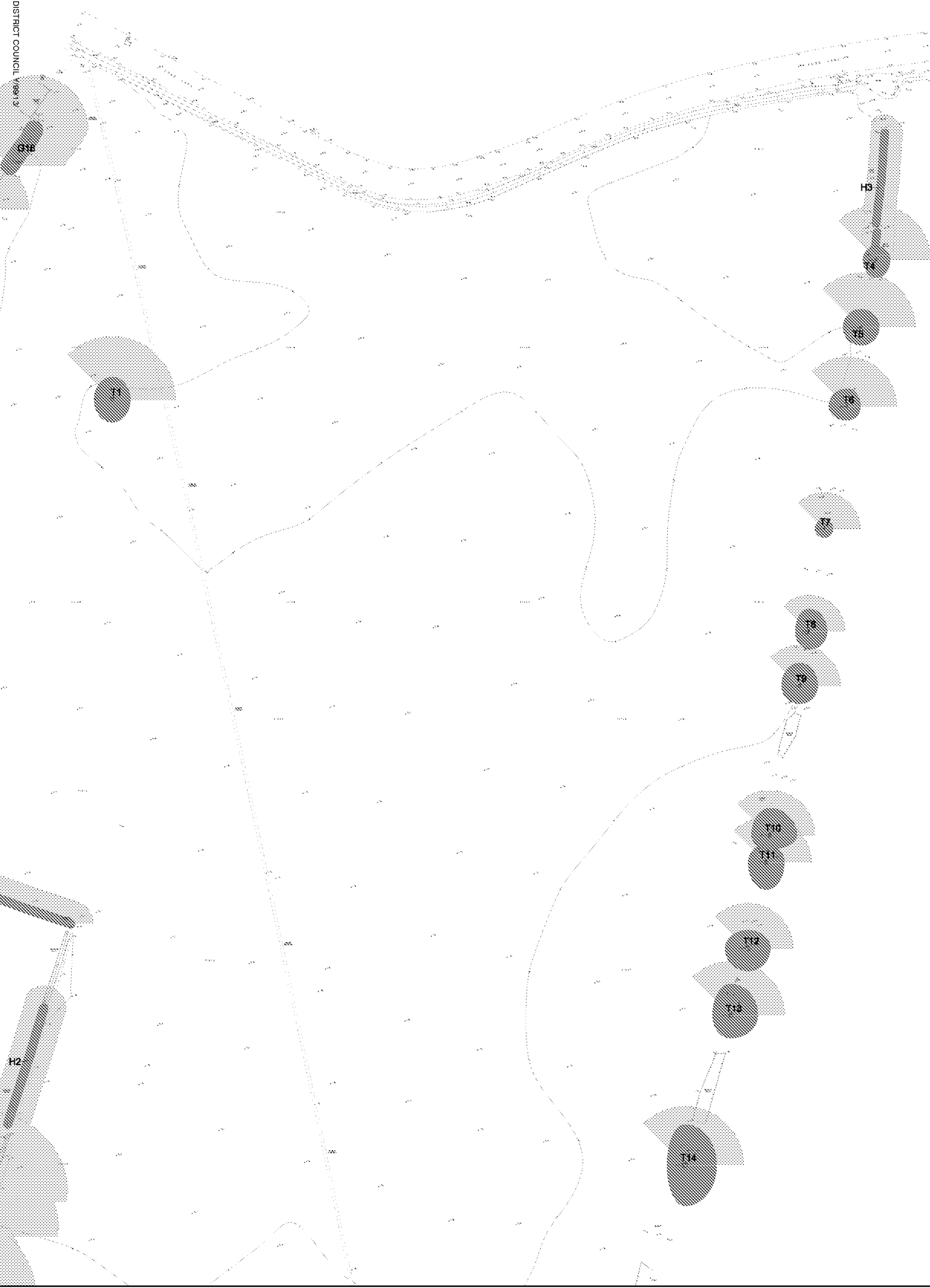
Please note the plotted shadows represent shadow cast throughout the typical day, and not the total shadow cast at a given moment.

This drawing should be viewed in colour.



Site: Land at Yapton, West Sussex
Client: Struut and Parker
Surveyor: Nick Betts
Date Drawn: 12/06/13
Scale: 1:1000 at A3
Drawing Number: PJC/3214/13/D
Drawing Title: Tree Shadow Plan

PJC Consultancy
Chapter House, Priesthawes Farm, Hailsham Road, Polegate, East Sussex, BN26 6QU
01323 768155 01323 768244 www.pjcconsultancy.com



Key:



Tree shadow



Tree canopy

Appendix 2, (Tree survey Schedule) contained within arboricultural report ref. PJC/3214/13 contains further information for each tree.

Tree shadows plotted using guidance set out in BS5837: 2012 - Trees in relation to design, demolition and construction - Recommendations. The trees existing height is used to calculate the radius of the shadow segment, plotted from north west to east as an arc.

Please note the plotted shadows represent shadow cast throughout the typical day, and not the total shadow cast at a given moment.

This drawing should be viewed in colour.



Site: Land at Yapton, West Sussex

Client: Struut and Parker

Surveyor: Nick Betts

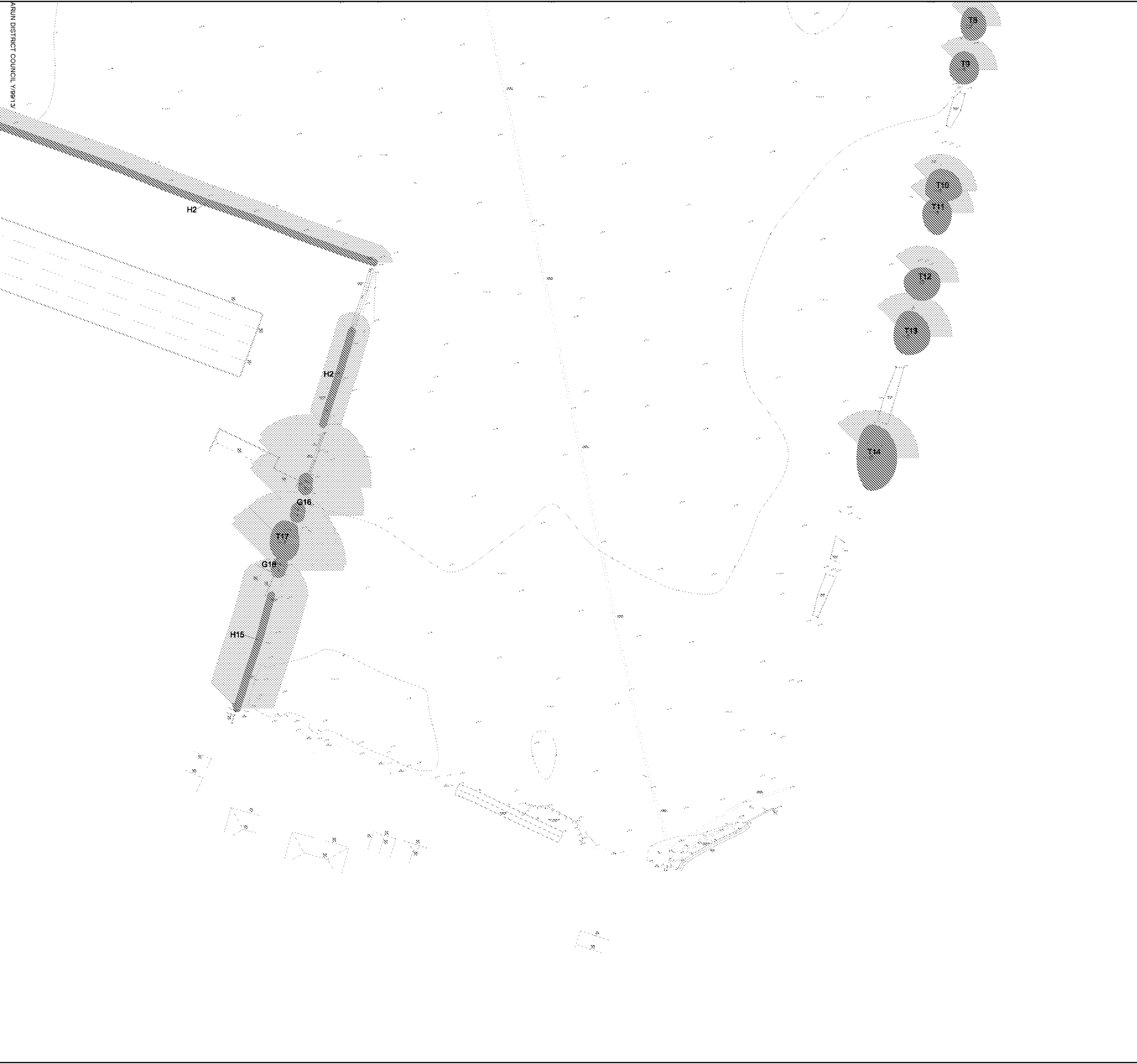
Date Drawn: 12/06/13

Scale: 1:1000 at A3

Drawing Number: PJC/3214/13/E

Drawing Title: Tree Shadow Plan





Key:

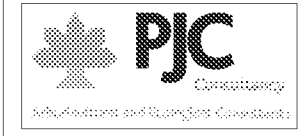
-  Tree shadow
-  Tree canopy

Appendix 2, (Tree survey Schedule) contained within arboricultural report ref. PJC/3214/13 contains further information for each tree.

Tree shadows plotted using guidance set out in BS5837: 2012 - Trees in relation to design, demolition and construction - Recommendations. The trees existing height is used to calculate the radius of the shadow segment, plotted from north west to east as an arc.

Please note the plotted shadows represent shadow cast throughout the typical day, and not the total shadow cast at a given moment.

This drawing should be viewed in colour.



Site: Land at Yapton, West Sussex
Client: Struut and Parker
Surveyor: Nick Betts
Date Drawn: 12/06/13
Scale: 1:1000 at A3
Drawing Number: PJC/3214/13/F
Drawing Title: Tree Shadow Plan

APPENDIX 2 Tree Survey Schedule

Tree Survey Schedule

				Client: Strutt and Parker Site: Land at Yapton Date: 03/06/2013 Surveyor: Nick Betts							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	Large leaved lime (Tilia platyphyllos)	14	720	N: 5 E: 4 S: 5 W: 5	4	Mature	Good	Good	None	No action required at date of inspection	A1	234.5	8.6
G2	Leyland cypress (Cupressocyparis leylandii)	5	320 average	N: 1 E: 1 S: 1 W: 1	0	Early mature	Fair	Fair	Previously heavily reduced	No action required at date of inspection	C2	46.3 average	3.8 average
H3	Smooth leaved elm, (Ulmus carpinifolia)	4	60 average	N: 1 E: 1 S: 1 W: 1	0	Juvenile	Fair	Fair	Dutch elm disease affecting trees within hedge	Remove infected trees	C2/U	3.1 average	1 average
T4	English oak, (Quercus robur)	12	560	N: 3 E: 3 S: 4 W: 3	1	Mature	Good	Good	None	No action required at date of inspection	B2	141.9	6.7
T5	Sycamore, (Acer pseudoplatanus)	12	480	N: 4 E: 4 S: 4 W: 4	1	Mature	Good	Good	None	No action required at date of inspection	B2	104.2	5.8
T6	Sycamore, (Acer pseudoplatanus)	11	470	N: 4 E: 3 S: 3 W: 4	1	Mature	Good	Good	None	No action required at date of inspection	B2	99.9	5.6

Tree Survey Schedule

				Client: Strutt and Parker Site: Land at Yapton Date: 03/06/2013 Surveyor: Nick Betts							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)
T7	White beam, (Sorbus aria)	8	310	N: 2 E: 2 S: 2 W: 2	3	Mature	Good	Good	None	No action required at date of inspection	B1	43.5	3.7
T8	Sycamore, (Acer pseudoplatanus)	8	240	N: 5 E: 4 S: 4 W: 3	2	Mature	Good	Fair	Multi stemmed growth habit	No action required at date of inspection	C1	26.1	2.9
T9	English oak, (Quercus robur)	9	670	N: 5 E: 4 S: 4 W: 4	2	Mature	Good	Good	None	No action required at date of inspection	B1	203.1	8
T10	English oak, (Quercus robur)	10	710	N: 6 E: 6 S: 3 W: 4	4	Mature	Good	Good	Heavy ivy cover, minor dead wood in crown	No action required at date of inspection	B1	228	8.5
T11	English oak, (Quercus robur)	10	760	N: 4 E: 4 S: 6 W: 4	4	Mature	Good	Good	Heavy ivy cover, minor dead wood in crown	No action required at date of inspection	B1	261.3	9.1
T12	English oak, (Quercus robur)	10	1020	N: 4 E: 5 S: 5 W: 5	5	Mature	Good	Good	Heavy ivy cover, minor dead wood in crown	No action required at date of inspection	B1	470.7	12.2

Tree Survey Schedule

				Client: Strutt and Parker Site: Land at Yapton Date: 03/06/2013 Surveyor: Nick Betts							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)
T13	English oak, (Quercus robur)	12	840	N: 7 E: 6 S: 5 W: 4	7	Mature	Good	Fair	Heavy ivy cover, minor dead wood in crown	No action required at date of inspection	B1	319.2	10.1
T14	English oak, (Quercus robur)	13	1030	N: 9 E: 7 S: 9 W: 4	6	Mature	Good	Fair	Heavy ivy cover, minor dead wood in crown	No action required at date of inspection	B1	479.9	12.4
G15	Leyland cypress (Cupressocyparis leylandii)	10	280	N: 1 E: 1 S: 1 W: 1	0	Early mature	Good	Good	None	No action required at date of inspection	C2	35.5	3.4
G16	Leyland cypress (Cupressocyparis leylandii)	18	340	N: 2 E: 2 S: 2 W: 2	0	Mature	Good	Good	None	No action required at date of inspection	C2	52.3	4.1
T17	English oak, (Quercus robur)	14	510	N: 6 E: 4 S: 5 W: 4	3	Mature	Good	Good	Multi stemmed growth habit	No action required at date of inspection	B2	117.7	6.1
G18	Mixed conifer group	12	410	N: 2 E: 2 S: 2 W: 2	0	Mature	Good	Good	None	No action required at date of inspection	C2	76	4.9

Tree Survey Schedule

				Client: Strutt and Parker Site: Land at Yapton Date: 03/06/2013 Surveyor: Nick Betts							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)
T19	Goat willow, (Salix caprea)	12	320	N: 3 E: 3 S: 3 W: 3	4	Mature	Good	Good	None	No action required at date of inspection	B1	46.3	3.8

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 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 value	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

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

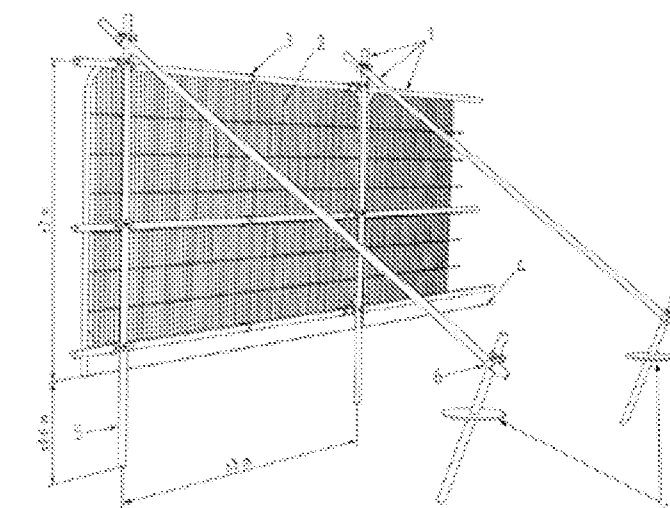
For trees with two to five stems, a combined stem diameter is calculated as follows:

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

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

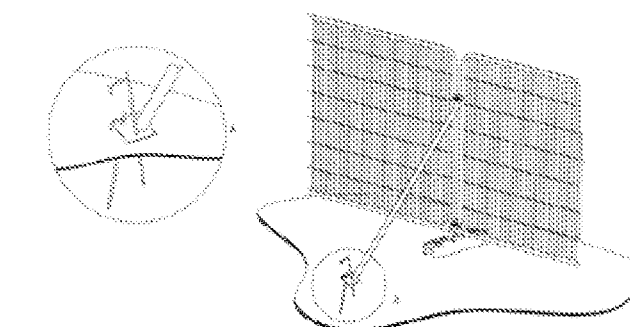
$$\sqrt{(\text{mean stem diameter})^2 \times \text{number of stems}}$$

APPENDIX 5 Tree Protection Fencing Specification

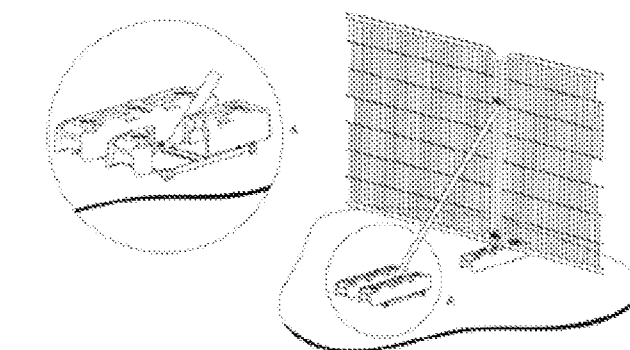


Key

- 1 Standard scaffolding poles
- 2 Heavy gauge 2 mm cold galvanneal tube and painted with white primer
- 3 Panels secured to uprights and cross-members with mesh ties
- 4 Ground level
- 5 Uprights driven into the ground until secure (maximum depth 0.6m)
- 6 Standard scaffold clamp



81 Stabiliser strut with base plate secured with ground pins



82 Stabiliser strut, mounted on black tray

APPENDIX 6 Example Protective Fencing Signs



APPENDIX 7 Photographs



Photograph 1: View along the eastern boundary



Photograph 2: View of the eastern boundary



Photograph 3: Trees on the western boundary



Photograph 4 Trees on the western boundary