Brooks Ecological
Grounded advice

Arboricultural Report for Planning Purposes- Land at Cote Lane, Thurgoland, Barnsley S35 7AE

Report reference: R-2579-01
April 2016

Report Title:	Arboricultural Report for Planning Purposes
Report Reference:	R-2579-01
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Introduction

1. Brooks Ecological Ltd was commissioned to prepare an Arboricultural Survey to accompany a planning application for a proposed development at the above address.

2. The report produced includes the following information:

    - A tree survey, undertaken in accordance with British Standard 5837:2012 'Trees in relation to design, demolition and construction' - Recommendations

    - An Arboricultural Constraints Plan which defines the required Root Protection Areas

    - An Arboricultural Implications Assessment which evaluates any potential impact the proposal may have on the surrounding trees

3. This report is based on site observations and the provided information. Conclusions have been made in light of the surveyors experience and qualifications. A list of experience and qualifications in arboriculture are detailed below. The client may choose to accept or disregard the recommendations made in this report, or seek additional advice.

4. This report is only concerned with trees in relation to construction. This report makes no attempt to provide a full safety inspection of the trees surveyed. It should not be seen as an alternative for a Tree Hazard Assessment which is specific to minimising the risk and liability associated with trees. Potentially hazardous trees have been highlighted and appropriate recommendations made only where urgent action is required in the interests of public safety.

5. Climatic conditions including storms, drought and temperature-related factors can cause damage and failure in apparently healthy trees. It should be remembered that all trees do pose a risk, whilst every effort has been made to detect any major defects in inspected trees, no guarantee can be given as to their safety. Although the risk should be managed to an acceptable level, no tree can be guaranteed as safe at all times.

6. This report is based on Visual Tree Assessment (VTA) methodology, as devised by Mattheck (1991). V.T.A is a ground level visual assessment of a tree, which is carried out to identify obvious mechanical defects, signs of ill health, potential mechanical failure and the suitability of a tree to a site. The survey is compiled in accordance with British Standard 5837:2012 'Trees in relation to design, demolition and

construction' - Recommendations with all Root Protection Areas (RPA's) are based upon section 4.6 of the document.

Site Visit

7. A visual inspection of the trees and their surroundings was completed 22nd April 2016. The survey was undertaken by Callum Andrew, who has completed and been awarded a 1st class BSc Honours degree in Arboriculture. Previous to this he completed a National Diploma in Forestry and Arboriculture.

8. The visit was unaccompanied. The weather conditions were dry and cloudy with minimal visibility constraints.

9. All measurements were calculated using the necessary instruments or estimated where access could not be gained. No climbing inspections or decay detection were undertaken.

10. The relevant information was recorded and the trees were graded using table 1 of BS5837. This information has been included within the tree schedule in Appendix 3. An explanation of the tree schedule format is also included within Appendix 2.

11. This survey should be read in conjunction with the Tree Constraint Plans (TCP) (located in appendix 5) which has been prepared by overlaying the necessary tree information onto a provided topographical plan. The surveyor has relied on the accuracy of the plan in the completion of the survey.

Site Description

12. The site appears to be a grassed agricultural field at present, possibly used for grazing at times, however on arrival at site gave the impression that it has been relatively unused during the recent past.

13. To the north of the site is the cul-de-sac of Springwood Close, whilst a broadleaved woodland borders the site's eastern perimeter. A few large detached residential dwellings are located to the south of the site, with Cote Lane found to the west.

14. All the trees on and around this site are located on its boundary of which are mainly broadleaved species varying from semi-mature to mature in age.

15. Manmade structures are present within some of the trees rooting environment. It is likely the presence of non-porous materials will have altered root dispersion.

Tree Protection Status

16. It is not known whether the site is located within a Conservation Area or if any of the trees included in this survey are covered by a Tree Preservation Order.

Soil Assessment

17. No soil testing was undertaken and no soil information was provided for the author. As recommended in BS5837 a comprehensive assessment should be undertaken by a competent person to determine whether the soil is shrinkable and gain an accurate understanding of the soil's structure. The assessment will help to inform tree protection considerations and new planting proposals.

Tree Quality Assessment

18. The tree survey included 10 individual trees, 5 groups of trees and a woodland. The woodland was awarded the upmost category 'A' status. Two individual trees were merited as category 'B' material. 6 individual trees and all 5 groups were categorised as 'C' class items. The remaining 2 trees were seen as poor quality 'U' grade specimens.

19. Generally the Local Planning Authority is likely to accept the removal of trees in a poor condition or those with a minimal, safe, useful life expectancy. This usually includes category 'U' and 'C' trees.

20. G1 (Common Hawthorn) is simply a boundary hedge between the site and the rear gardens of dwellings on Springwood Close. This hedgerow was graded as category 'C' material.

21. W2 (Common Oak, Sycamore, Goat Willow & Common Hawthorn) is an offsite woodland to the east of the site. This broadleaved, mixed species woodland has strong collective value and strongly enhances the amenity of the area, whilst also providing ample wildlife habitat (Figure 1). When considering this woodland in its entirety, its quality is clear, especially with its potential to benefit the landscape well into the long-term future, and as a result category 'A' status has been awarded.

Figure.1. The woodland to the east of the site, as seen from the site's central region.

22. T3 (Sycamore) is a poor quality specimen within the woodland area (W2). This declining tree has a limited safe useful life expectancy, and therefore has been categorised as a 'U' class item.

23. T4 (Common Oak) is located within a garden just beyond the site's south-east corner (Figure 2). It borders the woodland area (W2) however is worthy of individual merit. This well-formed tree was considered to be of category 'B' standard.

Figure.2. The offsite, category 'B' Common Oak (T4).

24. G5 (Lawson Cypress) is a relatively poor quality, offsite hedgerow. Such a hedge will never be considered of any great value, although it does provide screening between the site and neighbouring residential property. Nonetheless, category 'C' status has been allocated.

25. T6 (Cherry) is an ornamental specimen that is being slightly suppressed by its larger neighbour (T7). This tree lacks any great stature and is not worthy of anything more than the 'C' class status it has been provided with.

26. T7 (Common Ash) is an offsite specimen. This tree is well-formed and provides a noticeable focal point on the landscape. It has the potential to benefit the amenity of the area into the future. In turn, category 'B' status has been granted.

27. T8 (Common Ash) is a densely ivy covered specimen. It is unfortunate as without the ivy, this tree may have potential to be of a higher grade. Therefore, it has been recommended that the ivy is severed and removed. At present, this specimen is only worthy of 'C' class status.

28. T9 (Common Holly) is an inconsequential, multi-stemmed specimen. Its only real merit is its screening qualities between the site and neighbouring residential property. Category 'C' status has been provided for this tree.

29. G10 (Sycamore & Common Ash) is made up of two multi-stemmed Sycamore, that have formed as coppice regrowth and a small self-seeded Common Ash. These trees have a degree of collective value and do provide screening and amenity. However, they do lack any major qualities that would make them worthy of anything more than the category 'C' status they have been graded with.

30. G11 (Common Ash) are three inconsequential specimens that at present only deserve 'C' class status.

31. T12 – T15 (Common Hawthorn & Common Ash) are also relatively inconsequential trees at present, whilst T12 is growing around the boundary fence. T12 has been listed as a 'U' class specimen whilst the remaining three Common Ash (T13 – T15) have been provided with 'C' class status.

32. G16 is a mixed species hedgerow on the site's northern boundary that appears to be regularly maintained by the property owners on Springwood Close. Although it is well maintained and provides screening it is only worthy of 'C' class status.

Arboricultural Implications Assessment (AIA)

33. The following section evaluates the proposed design layout and the trees on site. Any tree and design conflicts are highlighted and possible remedial action recommended. The assessment is based on the surveyor's findings and the approximate location of the proposed development.

34. The proposal includes the construction of a residential estate made up of approximately 15 dwellings of which will surround a cul-de-sac road that runs from Cote Lane along the central part of the site in an easterly direction.

Trees to be removed to facilitate the proposal

35. The proposal has considered the surrounding trees and any above and below ground constraints. The following trees would require removal due to direct conflicts between their location and the development proposal.

36. It appears that the only tree that will require removal is T13 (Common Ash), an inconsequential category 'C' specimen, to accommodate the development of the access road into the estate. The removal of this specimen is not seen as of any great detriment from an Arboricultural prospective.

37. T14 & T15 may also need removing, however their retention may also be possible. Nonetheless, if there removal is required they are again seen as inconsequential and this would not be a major concern.

Below ground constraints

38. The area of roots that need to be protected around a tree to try and ensure that it does not suffer damage during the construction process is called the Root Protection Area (RPA).

39. As recommended in BS5837 we have plotted the RPA's (in magenta) onto the attached Tree Constraints Plan (TCP) taking full account of the surrounding topographical factors, tree condition and the overall likelihood of root disposition.

40. Any tree scheduled for retention will require protection in accordance with BS5837, regardless of its initial retention category. This protection will require the trees to be fenced-off in areas equal to RPA. This must be undertaken prior to any work beginning on site. An example of the required fencing has been attached to appendix 4.

41. BS5837 requires that these Construction Exclusion Zones are considered sacrosanct from any ground disturbance throughout the entire development process. Where access or construction is required with the RPA of any tree scheduled for retention, the work should be completed in a sympathetic manner so as not to cause detrimental effect on the tree's health.

42. The proposal has been situated outside of the required RPA's of trees highlighted for retention. Therefore the footings of the proposed buildings and infrastructures can be installed using traditional methods without incursions into the required RPA's.

43. No material storage or plant movement will be required within the designated RPAs. Sufficient space will be available within the central regions of the site.

Above ground constraints

44. There are no foreseeable, immediate conflicts with the position of the development and the above ground parts of trees. No facilitation pruning would be required as a direct conflict between the proposed building and trees highlight for retention.

45. Some of the trees on the western edge of W2 do have some low hanging branches that grow over the site boundary (Figure 4). The crown lifting of these trees may help to open up and enhance the appearance of the rear gardens of the properties that back onto this woodland area.

46. The retained trees (in proximity to the proposed building and access) can be expected to grow their overall dimensions by approximately 10% over the next decade. The expected future growth of the retained trees is not considered to cause any conflicts with the proposed development in the immediate future.

47. The guidance in section 5.3.4 of BS 5837:2012 states that buildings should not be positioned where surrounding trees would require frequent remedial pruning to alleviate encroachment. It is not considered that the proposed development will result in the need for continued pruning works.

Mitigation of tree loss

48. It is recommended that tree planting occurs on the site's western boundary to provide the new estate with screening from Cote Lane. There is adequate space along this boundary for some large trees, and therefore the planting of Common and/or Sessile Oak (*Quercus robur & Quercus petraea*) is recommended to stay in fitting with the existing landscape. With good planting and proper aftercare such trees can strongly help to enhance the site's amenity and, in turn, its value into the foreseeable future.

Wider impact and amenity

49. From an Arboricultural standpoint, the proposal is of very little detriment, with the potential to be positive if some decent tree planting is included in the development plans.

Conclusion

50. There is an entire range of high to low grade trees on and surrounding this site. The category 'A' woodland (W2) to the east of the site, and the two offsite category 'B' specimens, the Common Oak (T4) and the Common Ash (T7) are the main assets included in this survey. Yet, the remaining lesser trees do also contribute to the site's values.

51. The proposed residential estate only impacts on the inconsequential category 'C' T13 (Common Ash) which will require removal, and possibly T14 & T15 of which are again of little significance. This is not viewed as a constraint.

52. The remaining trees can be safely retained, although it may be desired that some lower westerly branches from the boundary trees of W2 are lifted to open up some of the possible rear garden space belonging to the newly developed properties.

53. It is recommended that planting takes place on the site's western boundary, where a large amount of space could allow large species planting, therefore Oak species have been suggested.

54. Providing a detailed Arboricultural Method Statement can be completed following planning consent, the author believes the scheme is Arboriculturally sound and that the long term well-being of the retained trees can be safeguarded in a suitable manner.

Signed

C Andrew

Callum Andrew BSc (Hons) Arboriculture

Appendix 1- Explanation of Survey Details

Tree Id- Each tree/group has been given a unique number, which coincides with the drawings located in appendix 3.

Species & botanical name- where identifiable the full botanical name has been given. Where a cultivar, variety or species cannot be accurately given the genus name only will be given.

Height (m)- measured approximately to the nearest 1m. If height issues are critical, measurements can be collected accurately using optical instruments.

No of stems- the number of separate stems each individual tree has.

Stem Dia @1.5m (mm)- the diameter of the given tree at 1.5m above soil level, (on sloping ground taken on the up-slope side of the tree base). Where the tree is multi-stemmed measurements will be record for each stem.

Spread- indicates the crown radius from the base of tree in four compass directions, recorded to the nearest metre.

Crown height + direction (m)- recorded as the first significant branch and direction of growth.

Life stage- described as young, semi-mature, early-mature, mature or over-mature.

Physiological condition (P)- an assessment of the trees health. Considers vitality, die back and the presence of disease. Described as **Good** = no significant health problems **Fair** = symptoms of ill health that can be remediated **Poor** = significant ill health.

Structural condition (S)- an assessment of the trees structural condition. Described as **Good** = no significant defects **Fair** = significant defects that can be remediated **Poor** = significant defects no remedy.

Observations – negative and positive- narrative comments on general condition, significant defects and overall appearance (e.g. the presence of any decay).

Preliminary management recommendations- e.g. requires pruning or further investigation of suspected defects is needed.

Life expectancy- preliminary management recommendations, e.g. requires pruning or further investigation of suspected defects is needed.

Retention Category- Each tree/group is identified with a retention category in accordance with BS5837 (an in depth explanation is provided on the following page)

RPA radius (m)- minimum area in metres which should be left undisturbed around each retained tree.

Appendix 2- Cascade chart for tree quality assessment (extract from BS5837 table 1)

Category and definition	Criteria (including subcategories where appropriate)	Identification on Plan
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	• 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 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 health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve	DARK RED

TREES TO BE CONSIDERED FOR RETENTION

Category and definition	Criteria – Subcategories			Identification on Plan
	1 Mainly arboricultural values	**2 Mainly landscape values**	**3 Mainly cultural values, including conservation**	
Category A **Trees of a 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 essential components of groups, or of 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)	LIGHT GREEN
Category B **Those of moderate quality** with and 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 remediable 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 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	MID BLUE
Category C **Those of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm	Unremarkable trees of a 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 landscape value; and/or trees offering low or only temporary/transient screening benefits	Trees with no material conservation or other cultural values	GREY

Appendix 3- Tree Schedule

Tree ID	Species, Botanical Name	Height (m)	No of stems	Stem Dia @ 1.5M (mm)	Spread - N,E,S,W				Crown height+ direction (m)	Life stage	Physiological (P) and Structural (S) condition. Observations- negative and positive	Preliminary management recommendations	Life expectancy	Retention category	RPA Radius (m)
G1	Common Hawthorn, *Crataegus monogyna*	3	1	100	See Plan.				1-s	Early-mature	P = Good, S = Fair. Boundary hedgerow. Provides screening from neighbouring properties.	None at present.	10 to 20 yrs	C2	1.2
W2	Common Oak, *Quercus robur*; Sycamore, *Acer pseudoplatanus*; Goat Willow, *Salix caprea*; Common Hawthorn, *Crataegus monogyna*	15	1	540	See Plan.				1-w	Mature	P = Good, S = Fair. An offsite, broadleaved woodland. Strong collective amenity and wildlife habitat. Potential to make a long term contribution. Some ivy covered specimens present of which no accurate inspection could be completed.	None at present.	>40 yrs	A2	6.5
T3	Sycamore, *Acer pseudoplatanus*	11	1	410	1.4	1.5	1	1.5	5-w	Early-mature	P = Poor, S = Fair. Woodland grown tree with apical dieback present in crown. Possesses a limited safe useful life expectancy.	None at present.	<10 yrs	U	4.9
T4	Common Oak, *Quercus robur*	13	1	710	4.9	4	4	6.5	2-w	Mature	P = Good, S = Good. An offsite, well-formed, single stemmed specimen in neighbouring garden. Has the potential to provide a lasting contribution.	None at present.	>40 yrs	B2	8.5

Tree ID	Species, Botanical Name	Height (m)	No of stems	Stem Dia @ 1.5M (mm)	Spread - N,E,S,W				Crown height+ direction (m)	Life stage	Physiological (P) and Structural (S) condition. Observations- negative and positive	Preliminary management recommendations	Life expectancy	Retention category	RPA Radius (m)
G5	Lawson Cypress, *Chamaecyparis lawsoniana*	3	1	120	See Plan.				0-n	Early-mature	P = Fair, S = Fair. An offsite, relatively poor quality, semi-maintained boundary hedgerow. Provides screening from neighbouring property.	None at present.	10 to 20 yrs	C2	1.4
T6	Cherry, *Prunus* spp.	7	1	230	2.3	3.5	3.5	1	2-e	Semi-mature	P = Good, S = Good. An offsite ornamental that is suppressed on west side due to neighbouring tree. No accurate inspection of lower stem and base could be completed due to location.	None at present.	10 to 20 yrs	C2	2.8
T7	Common Ash, *Fraxinus excelsior*	14	1	750 est.	5	6.2	7	6.6	2-w	Mature	P = Good, S = Fair. An offsite, well-formed, large specimen with broad crown. Provides a strong degree of amenity to the landscape. Major dead wood present in crown. No accurate inspection could be completed due to offsite location and dense hedgerow.	None at present.	20 to 40 yrs	B2	9

Tree ID	Species, Botanical Name	Height (m)	No of stems	Stem Dia @ 1.5M (mm)	Spread - N,E,S,W				Crown height+ direction (m)	Life stage	Physiological (P) and Structural (S) condition. Observations- negative and positive	Preliminary management recommendations	Life expectancy	Retention category	RPA Radius (m)
T8	Common Ash, *Fraxinus excelsior*	12	1	810 over ivy	5.5	4.4	7	5	2-n	Mature	P = Fair, S = Fair. A densely ivy covered specimen of which no accurate inspection could be completed. This specimen would be a category B tree in the absence of ivy.	Sever and remove ivy.	10 to 20 yrs	C2	9.7
T9	Common Holly, *Ilex aquifolium*	6	9	130	1	2	1	1	0.5-n	Early-mature	P = Good, S = Fair. A multi-stemmed specimen that provides a degree of screening.	None at present.	10 to 20 yrs	C2	4.7
G10	Sycamore, *Acer pseudoplatanus*; Common Ash, *Fraxinus excelsior*	10	9	140	4.3	5.5	4	3.5	0.5-e	Early-mature	P = Good, S = Fair. Two multi-stemmed coppice Sycamore and one inconsequential self-seeded Ash.	None at present.	10 to 20 yrs	C2	5
G11	Common Ash, *Fraxinus excelsior*	5	1	160	2	2	2	2	1-e	Semi-mature	P = Good, S = Good. Three small and inconsequential self-seeded Ash.	None at present.	10 to 20 yrs	C2	1.9
T12	Common Hawthorn, *Crataegus monogyna*	4	3	90 80 70	2	0.5	2	1	0.5-e	Semi-mature	P = Fair, S = Fair. Scrubby formed specimen growing around fence.	None at present.	<10 yrs	U	1.7
T13	Common Ash, *Fraxinus excelsior*	7	2	160 150	2.5	2	2	2	0.5-e	Semi-mature	P = Good, S = Fair. A twin stemmed specimen from 0.5 metres with bark included union.	None at present.	10 to 20 yrs	C2	2.6

Tree ID	Species, Botanical Name	Height (m)	No of stems	Stem Dia @ 1.5M (mm)	Spread - N,E,S,W				Crown height+ direction (m)	Life stage	Physiological (P) and Structural (S) condition. Observations- negative and positive	Preliminary management recommendations	Life expectancy	Retention category	RPA Radius (m)
T14	Common Ash, *Fraxinus excelsior*	6	2	150 130	1	1.5	2	1	1-e	Semi-mature	P = Good, S = Fair. A twin stemmed specimen from 0.5 metres with bark included union.	None at present.	10 to 20 yrs	C2	2.4
T15	Common Ash, *Fraxinus excelsior*	6	1	170	2	2	1	2	1-e	Semi-mature	P = Good, S = Good. An inconsequential, single stemmed specimen.	None at present.	10 to 20 yrs	C2	2
G16	Common Hawthorn, *Crataegus monogyna*; Lawsons Cypress, *Chamaecyparis lawsoniana*	2	1	100	1	1	1	1	0-s	Semi-mature	P = Good, S = Good. A well maintained, mixed species boundary hedgerow.	None at present.	10 to 20 yrs	C2	1.2

Appendix 4- General Tree Protection Considerations

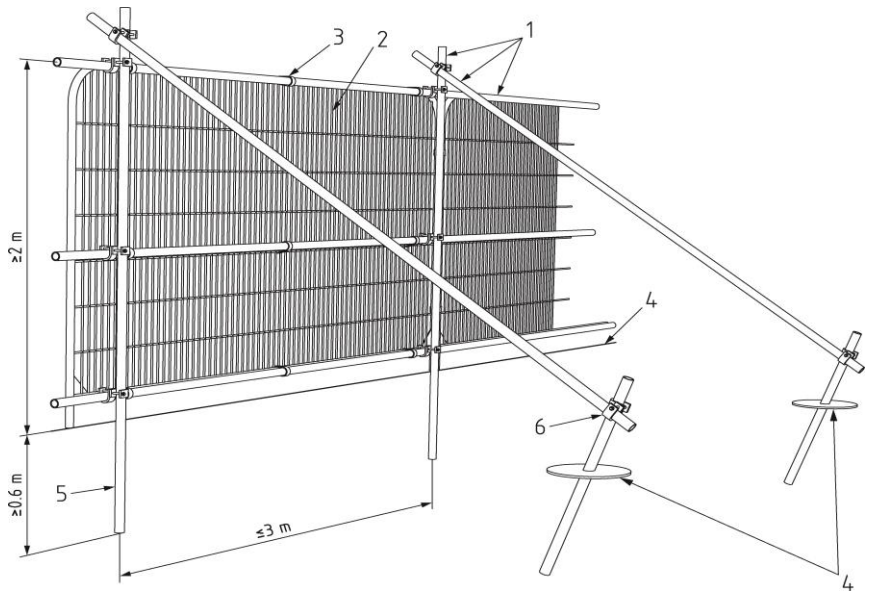
Any tree retained within the design will require protection in accordance with BS5837 regardless of its initial retention category. This protection will require trees to be fenced- off in areas equal to the RPA's plotted on the attached Tree Constraints Plan (TCP) (located in Appendix 5).

A protective fence will be erected prior to the commencement of any site works e.g. before any materials are brought on site, The fence will have signs attached to it stating that this is a Construction Exclusion Zone and that **NO WORKS** are Permitted within the fence. The protected fence may only be removed following completion of all construction works.

The fence is required to be sited in accordance with the Tree Protection Plan once a final layout has been decided. It must ideally be constructed as per figure 2 in BS5837 and be fit for the purpose of excluding any construction activity (see diagram below). Any other fence/barrier used must be fit for the purpose.

Once erected all protective fencing will be regarded as sacrosanct, and will not be removed or altered without prior recommendation by the project Arboriculturist and approval by the local planning authority.

The diagram below demonstrates the required fence specifications of BS5837:2012 figure 2.



Key

1. Standard scaffold poles
2. Heavy gauge 2m tall galvanized tube welded mesh infill panels
3. Panels secured to uprights with wire ties
4. Ground level
5. Uprights driven into the ground until secure (minimum depth 0.6m)
6. Standard scaffold clamps

Appendix 5-Tree Constraints Plan

G16
C

G1
C

T3
U

T15
C

T14
C

T13
C

W2
A

T12
U

G11
C

T4
B

T9
C

T8
C

G10
C

T7
B

T6
C

G5
C

Key

Crown Spread

Root Protection Area

Category 'A'

Category 'B'

Category 'C'

Category 'U'

0 30m

Tree Constraints Plan

Land at Cote Lane, Thurgoland

Brooks Ecological Ltd

SCALE : 1 : 500 @ A4

DATE : 29/04/2016

MAP FILENAME : [Filename]

N