BE Brooks Ecological Ltd

Cost effective, grounded advice

Preliminary Tree Survey & Arboricultural Implications Assessment Land at Woodland Drive, Barnsley

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Introduction

1. Brooks Ecological Ltd was commissioned by J.F. Finnegan Ltd to prepare an Arboricultural Survey to accompany a planning application for a proposed redevelopment at Woodland Drive Barnsley. The report includes the following information:

    - A tree survey, undertaken in accordance with British Standard 5837:2005 Trees in relation to construction - Recommendations
    - An Arboricultural Constraints Plan which defines the required Root Protection Areas
    - An appraisal of the trees included in the survey
    - An Arboricultural Implications Assessment (AIA) which evaluates the impact of the proposed development on the trees included within the survey.

2. 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.

3. 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.

4. 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.

5. 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 5837:2005 'Trees in relation to construction – Recommendations' with all Root Protection Areas (RPA's) are based upon Table 2 of section 5.2.2.

Site Visit

6. A visual inspection of the trees and their surroundings was completed on 1st February 2012. The survey was undertaken by Mike Shackleton (M.Arbor.A) who has over 10 years experience within the Arboricultural Industry. He has a Higher National Diploma in Arboriculture and a City and Guilds Level 2 awarded in Arboriculture. He has been involved in dealing with proposed/active development sites, advice on trees in relation to structures, health and safety appraisals, tree inventories and planning appeals. As part of his continuing professional development he regularly attends seminars and training events on issues relating to Arboriculture, particularly with trees in relation to construction.

7. The visit was unaccompanied. The weather conditions were dry but cold with no visibility constraints. The trees were dormant.

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

9. 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 1. An explanation of the tree schedule format is also included within the Appendix.

10. This survey should be read in conjunction with the Tree Constraint Plans (TCP) (located in appendix 4) which has been prepared by overlaying the necessary tree information onto a provided topographical survey. The surveyor has relied on the accuracy of the plan in the completion of the survey. Some surrounding vegetation had not been included within the provided topographical plan and has been added by the surveyor. Their locations and size are unlikely to be completely accurate.

Site Description

11. The site is a maintained field with vegetation located around the north and western perimeters. The surrounding land consists of residential dwellings.

12. The land included within the survey has a number of significant level changes within the centre. These are unlikely to affect the surrounding trees with regards to drainage.

13. No soil testing was undertaken.

Tree Appraisal

14. The tree survey included 5 individual trees and 2 groups of trees/vegetation. No trees were identified as retention category 'A' items, neither did any trees meet the criteria of category 'B'. 3 trees and the 2 groups of trees were identified as retention category 'C'. The remaining 2 trees were classified as 'R' for removal.

15. A number of young saplings and shrub masses were located within neighbouring land but were not included because of their limited size and stature. It is believed such vegetation would not be seen as a constraint to development nor would it be likely that any proposed construction activity within the sites boundaries would have ill effect on their health.

16. 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 'R' and 'C' trees.

17. The trees that met the criteria of category 'R' are in a poor structural or physiological condition, their useful life expectancy is estimated to be less than 10 years, these include T1 (Silver Birch) and T7 (Goat Willow).

18. T1 has a significant bark wound located along the eastern side of the stem. The exposed sapwood has become dysfunctional and open to infection. As Birch species are such poor compartmentalisers (ability to defend against wood decaying fungi) it is highly unlikely the trees safe life expectancy would extend past 10 years. Therefore the tree should not be seen as a constraint to development.

19. T7 is a poorly formed specimen with extensive fire damage. The tree has a limited remaining life expectancy.

20. The remaining trees/vegetation are located along the sites boundaries and predominately within the grounds of neighbouring property. All these items meet the criteria of category 'C'. Although they are not particularly good specimens they do offer screening from any potential development and should be retained and adequately protected were possible.

Arboricultural Implications Assessment

21. The following is an assessment to evaluate any arboricultural implications with regards to the proposed layout. The assessment is based on the surveyor's findings and drawings provided by the client (drawing SK023).

22. The proposal includes a large medical centre to be constructed to the north of the site with associated car parking and forecourt.

Trees to be removed to facilitate the proposal

23. Only T1 is situated within the desired footprint. As the tree meets the criteria of category 'R' and of poor quality, it should be removed for reasons of sound arboriculture. Due to its size, its loss will have no detrimental effect on the surrounding landscape.

Below Ground Constraints

24. 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).

25. 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.

26. 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 2.

27. 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, this should be completed in a sympathetic manner so as not to cause detrimental effect on the tree's health.

28. No construction of foundations or installation of services will be required to take place within the recommended RPA's. The trees located around the sites perimeters can be retained and adequately protected during the construction process.

Above Ground Constraints

29. The impact of trees on buildings and the allowance for future growth have all been considered in the siting of the new medical centre. Tree size, future growth and leaf nuisance have received due attention and are not considered to be an issue. This is due to the considerable distance of the retained trees from the development.

Shade Considerations

30. Examples of the possible shade that will be cast by the trees on site and off site are highlighted on Tree Constraints Plan 2 in grey triangles. This is not a precise measurement and should only be used as a rough guide but it is clear no shade implications are present between the trees highlighted for retention and the proposed building.

Mitigation of tree loss

31. Only T1 will require removing as a result of the development. The provided layout proposal appears to have incorporated new planting of trees to the eastern boundary. These should be of a species sympathetic to projected climate change and capable of providing lasting contribution.

Conclusion

32. The proposal will only require the removal of 1 category 'R' tree. The remaining trees and hedges can be safely retained and of a sufficient distance from the proposed building so as not to cause a nuisance in the future.

33. It is recommended that once a final layout has been agreed an Arboricultural Method Statement should be compiled to ensure the safe retention of surrounding trees.

34. Any tree surgery work recommended in this report should be in accordance with BS3998 2010. "Recommendations for tree work" by a competent, qualified arboriculturalist. They must also hold sufficient public/employees liability insurance.

35. During the construction phase, a suitably qualified arboriculturalist should be employed to monitor and report on tree related development issues to ensure the continued protection of trees.

Appendix 1- Tree schedule
(Explanation of survey detail & BS5837 retention categories)

Tree Id	Each tree/group has been given a unique number, which coincides with drawing 1 located in appendix 1. Where specifically instructed small durable numbered metal tags will be applied to each tree/group surveyed.
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.
Age	Is described as young, semi-mature, early mature, mature or over mature.
Height (m)	This is measured approximately to the nearest 1m. If height issues are critical, measurements can be collected accurately using optical instruments.
Stem Dia (mm)	The diameter of the given tree at 1.3m 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 taken below the junction where possible. Multi-stemmed trees are highlighted with M/S abbreviation.
Crown Spread	Indicates the crown radius from the base of tree in four compass directions, recorded to the nearest metre.
Crown Height	Height of the ground clearance above adjacent ground in metres.
Life Expectancy	A rough estimate of a trees future life expectancy and recorded as <10, 10-20, 20-40, and 40+ years.
Physiological Condition	An assessment of the trees health and considers vitality, die back and the presence of disease. It is described as **Good** = no significant health problems, **fair** = symptoms of ill health that can be remediated and **poor** = significant ill health.
Structural Condition	An assessment of the trees structural condition. It is described as **Good** = no significant defects, **Fair** = significant defects that can be remediated, and **Poor** = significant defects no remedy.
Comments	Narrative comment on general condition, significant defects and overall appearance (e.g. the presence of any decay).
Action	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 (retention categories are discussed in greater detail in section 4.0)
Root Protection Area (RPA) (m2)	This is the minimum area in m2 which should be left undisturbed around each retained tree.

Tree Schedule

Tree ID	Species, Botanical Name	Age Class	Height (M)	Stem Dia @ 1.5M (mm)	Spread - N,E,S,W				Crown height (M)	Life Expectancy	Physiological (P) and Structural (S) condition. Observations- negative and positive	Action	Retention category	RPA Radius (m)	RPA (m2)
T1	Silver Birch, *Betula pendula*	Early-mature	9	330	4	2	4	4	1.5	<10	P= Good, S= Fair. Significant bark wound located to the eastern side of stem with dysfuntional exposed sap wood. Limited remaining safe useful life expectancy.	Fell for reasons of sound arboriculture.	R	3.96	49.27
T2	Silver Birch, *Betula pendula*	Early-mature	12	300	2	2	2	2	6	10-20	P= Good, S= Good. Located within neighbouring property. No accurate inspection could be completed but appears in good vitality.	No action.	C1	3.60	40.72
G3	Boundary hedge, mainly consisting of Privet	Young	3	180	1	1	1	1	0	10-20	P= Fair, S= Fair. Boundary hedge acting as screening.	No action.	C1	2.16	14.66
G4	Mixture of deciduous trees, mainly Poplar Species	Semi-mature	11	350	1	1	1	1	1	10-20	P= Good, S= Fair. Group of trees located within neighbouring property. Poor management has occurred in the past.	No action.	C1	4.20	55.42
T5	Goat Willow, *Salix caprea*	Semi-mature	5	380	4	4	2	4	1	10-20	P= Good, S= Fair. Bark inclusions present between competing stems. Poorly formed tree of no particular merit.	No action.	C1	4.56	65.33
T6	Silver Birch, *Betula pendula*	Semi-mature	9	250	2	2	1	2	2	10-20	P= Good, S= Fair. Suppressed by neighbouring tree. Basal area could not be inspected due to presence of undergrowth and rubbish.	No action.	C1	3.00	28.27

Tree ID	Species, Botanical Name	Age Class	Height (M)	Stem Dia @ 1.5M (mm)	Spread - N,E,S,W				Crown height (M)	Life Expectancy	Physiological (P) and Structural (S) condition. Observations- negative and positive	Action	Retention category	RPA Radius (m)	RPA (m2)
T7	Goat Willow, *Salix caprea*	Early-mature	9	M/S 400	3	4	4	3	1	<10	P= Fair, S= Poor. Twin stemmed tree with significant fire damage to western limbs. Limited remaining safe useful life expectancy.	Fell for reasons of sound arboriculture.	R	4.00	50.27

Tree Constraints Plan 1

Land at Woodland Drive
Barnsley

BE Brooks Ecological Ltd

SCALE : 1 : 500
DATE : 02/02/2012
MAP FILENAME : {Filename}

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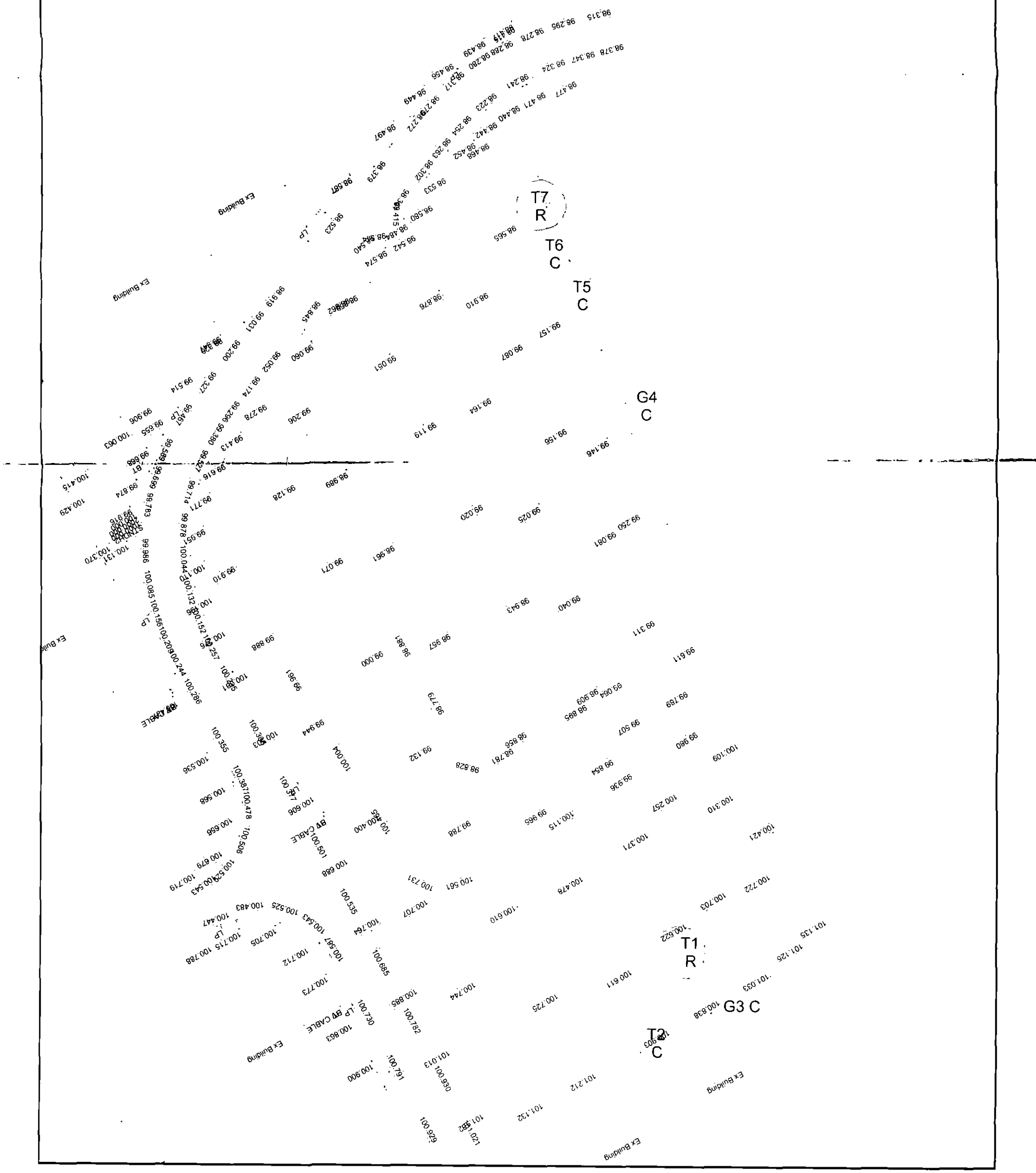
Category A- Tree/Group- Retention most desirable

Category B- Tree/Group- Retention desirable

Category C- Tree/Group- Trees which could be retained

Category R- Tree/Group- Trees for removal

Required Root Protection Areas (RPA's)



Tree Constraints Plan 2

Land at Woodland Drive
Barnsley

BE Brooks Ecological Ltd

SCALE : 1 : 500
DATE : 02/02/2012
MAP FILENAME : [Filename]

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Category A- Tree/Group- Retention most desirable

Category B- Tree/Group- Retention desirable

Category C- Tree/Group- Trees which could be retained

Category R- Tree/Group- Trees for removal

Example tree shadow

