

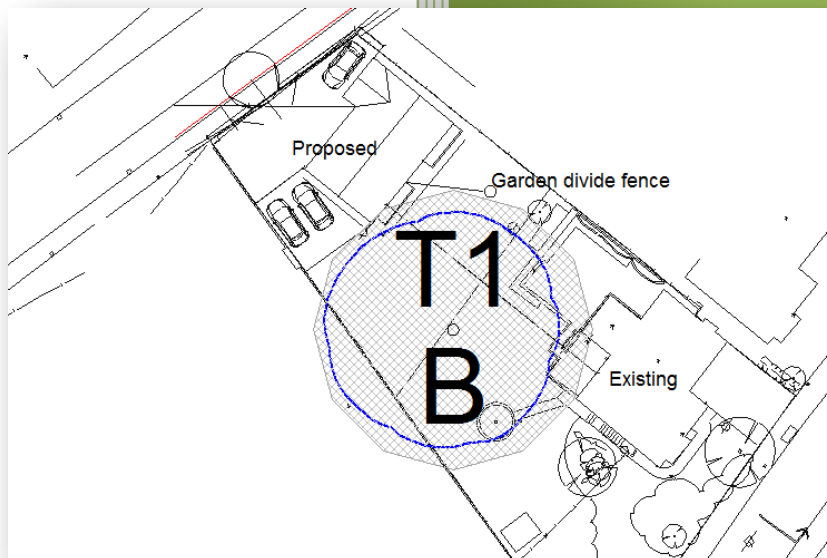
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BS5837 – Arb Impact Assessment



5.2021

## BS5837 2012 Arboricultural impact assessment



**Site:**

9 Maes Llwynonn, Cadoxton.

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## Instruction

Following an email instruction from the client, I have been commissioned to provide a preliminary document to highlight the potential conflict with trees on site – an arboricultural impact assessment.

I hold the ABC Awards Technical Certification in Arboriculture (AA Tech Cert) and am familiar and experienced with the British Standard 5837 2012 and working with it on development sites. I have over 15 year's practical experience surrounding the planning process and trees during my work as an arboricultural consultant and contractor. My aim is to bring my knowledge and experiences into the report which then aims to help the planning process.

By utilising the guidelines of BS 5837 2012, data is taken of tree features, such as specie, height, stem diameter measured at 1.5m above ground level (to give an even sized stem taper) for single stemmed trees or an average stem diameter for multi stemmed trees. Further data is collected to assess the trees suitability for the location which uses physiological and structural assessments to give a final opinion of the trees overall condition. Further considerations are given to the trees such as rooting area and any required arboricultural management work prior to development.

Experience in working with trees is vital when providing information in relation to a BS5837 Report. BS5837 2012 recommends the use of an arboriculturalist in order to understand the trees needs on site and the trees current and future environment. In this case the arboriculturalist is James Pinder. The arboriculturalist needs to be able work out the extent of root mass occupying the area and how placing the footprint of a building near it may change the dynamics of the trees surroundings. Once a building is placed next to trees it is also important to understand the long term effects of aerodynamic changes on trees retained and any rain shadow created by the new structure may adjust water availability to trees. Should the development be seen to have a detrimental or significant nature to the trees then changes may be required to the buildings architecture or size to ensure minimal impact on a tree. In certain cases the tree or trees may need to be removed.

By using the data gathered to compile the report and assessing the tree needs, an opinion can then be made on it is best to protect the trees from the development process. Root protection areas are calculated and these need to be adhered to when installing a protection at the extremity of the RPA. Under no circumstances should an RPA be lessened unless a specific method and reason is being used. All guidance contained within this report should be followed to ensure that the whole or part of the proposed development is not jeopardised.

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## Site Location/descriptions



- I accessed the site from the side access of number 9.
- The rear garden is at a higher level than the house frontage.
- The mature oak tree in the garden grows with level land and has no significant defects.
- A development proposal is being planned within the north of the garden.
- No other significant landscape trees or woodlands are affected by the proposals.

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## Definitions

BS 5837 2012 (Trees in relation to construction) was revised in 2012 and now supersedes the previous 1991 & 2005 editions.

Within the newer BS many definitions are given so the professional arboriculturist's are able to give an indication to planners and architects so that a common understanding of trees and how building new structures may affect the health and support of trees can be given.

### Arboriculturist

*A person who through relevant training, qualifications and experience in the arboricultural world is able to form an opinion on how trees may be affected through development processes.*

### Competent person

*A person, who has had training and experience relevant to the matter in hand and is able to recognize whether it is safe to proceed with a specific site process.*

### Structure

*Man-made object, such as a building, carriageway, path, wall, services and built or excavated earthworks.*

### Root protection area (RPA)

*A site layout design tool that enables a pictorial representation of trees required rooting area. This area must be protected to ensure the survival of trees.*

### Tree constraints plan (TCP)

*A clear plan diagram showing tree locations, crown spreads and rooting areas. This allows the arboriculturist to demonstrate areas where trees will affect a proposal by tree volume, height or shade.*

### Construction exclusion zone (CEZ)

*An area clearly marked both on site and on a site plan. This area must have no construction operations carried out within.*

### Tree protection plan (TPP)

*A scale drawing that shows tree locations, rooting areas and fencing locations on site.*

### Arboricultural implications assessment (AIA)

*An assessment made by the arborist to identify, evaluate and possibly mitigate affects of construction process on trees.*

### Arboricultural method statement (AMS)

*A written or toolbox talk applied method of ensuring the contractor (construction) can implement the design adjacent to existing trees.*

### Services

*Above or below ground pipe work, wire or ducting construction that could affect trees crowns or their roots or rooting areas.*

### Special engineering

*Designing of a structure with the physiological requirements of trees as the primary concern.*

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## Tree AIA

Tree info:

- Tree crown spreads in metres are N10, E8.5, S9.5, W11. Tree crown drip line is to be marked in blue on the site plan.
- The oak tree is a B2 category tree meaning it is moderate for its species and it has local landscape value.
- Stem diameter is 965mm. This gives a rooting area radius of 11.6m. A circle around the tree is required of this radius to show the rooting area as defined by BS5837 2012.
- The tree does not have any major defects but dead wood removal and on-going assessment is required.

Other info I recorded on site for the tree was historical pruning to the oak tree crown (on-going management), minor dead wood to remove, historical intrusion into the rooting area of the tree for the existing house and surrounding structures.

The dimensions of the proposal on the plan do indicate that the north edge of RPA is overlapping – there are no above ground issues I could see in relation to the project. We have a clash on the plan with the rooting area and footings/paths so some trial pits (450mm square by 600mm deep) to check for roots may be required. If no roots are found then that is excellent news. If roots are found then we may need to alter the foundation method so it is tree friendly.

The SUDS should not be an issue as this can be placed outside of the tree RPA.

No services are required through the trees RPA.

## Conclusion

Overall, I can see how the proposal can take place and the tree be retained with careful work being used. The tree will stay within the garden of number 9 long term so will continue to enjoy the on-going management that is being provided for the tree. This means that the existing house will have to have the tree and its rooting area fenced off across the site during any construction work. This will be close to the southern corner of the proposed construction. Any contractor needs to be aware of how little space they will have for working room on site and that for the southern corner of the build it will need to be agreed in writing if an arb watching brief is required or not. Once the proposed is complete the council can relax the tree protection condition and then the owner of number 9 can install a new boundary fence to be placed across the gardens where they would like it to formally divide the sites – the proposed construction should not have any landscaping within in the RPA of the oak tree, the rooting area should stay as grass.

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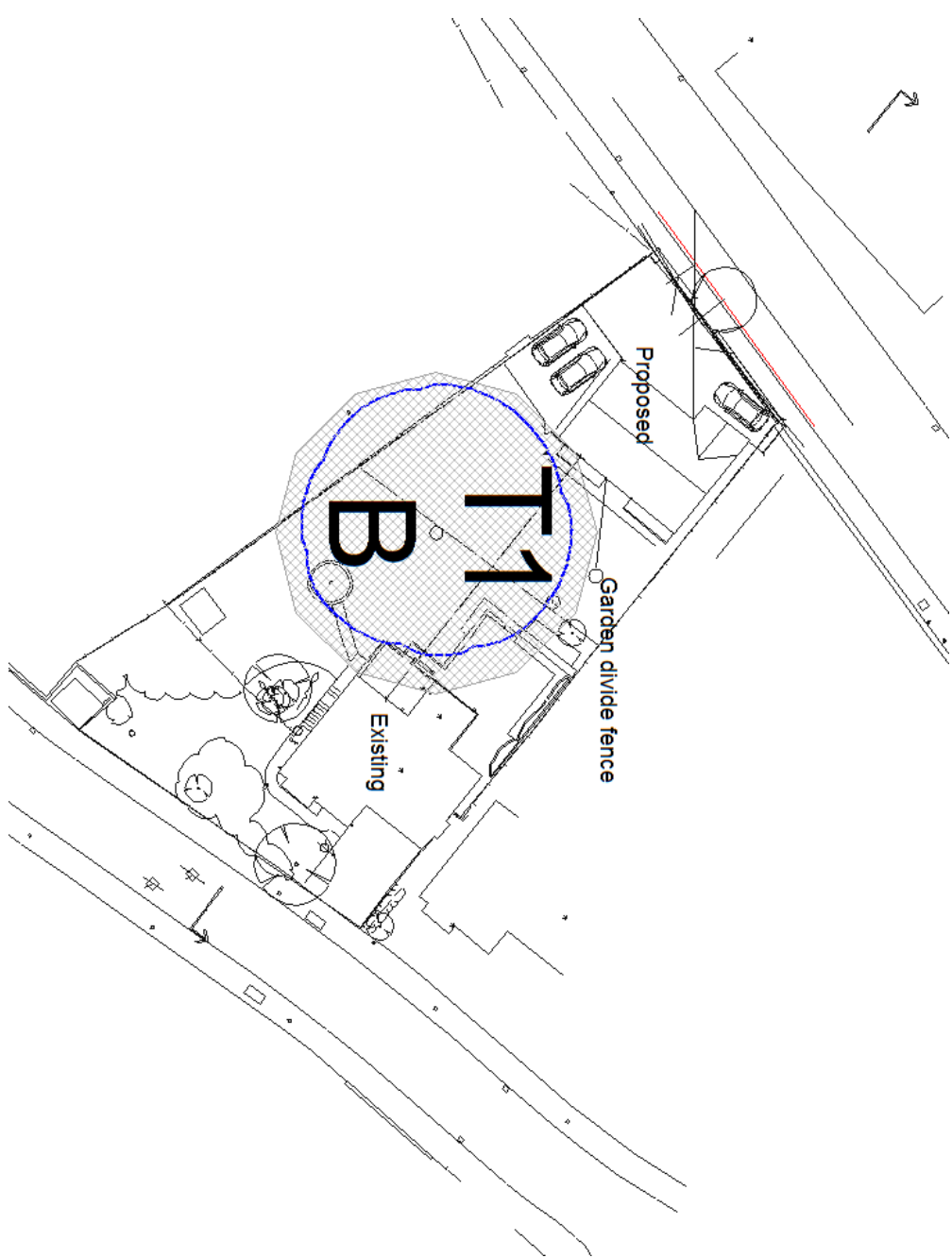
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## Recommendations

1. Discuss with LPA the installation of a site divide fence across the site to ensure no access to the main rooting area of T1 is possible – some minor intrusion into theoretical RPA may however be required.
2. Hand dig three trial pits down to foundation depth 2m apart around the north extent of RPA to check for root presence. AWB may be required to check trial pits. LPA should be sent photos of the pits contents. Only fibrous roots, if any, are expected.
3. If a pedestrian path around the proposed is required this should be created using a no dig method only and no builder's sand due to salt content. Horticultural sand should be used.
4. Remove dead wood/prune tree in accordance with BS3998 2010 and landowner needs.
5. Garden area from the proposed southern elevation outer path to the boundary fence running west to east across the garden should remain grass.

Plan



**DETAILED SCALE SITE DRAWINGS WILL BE SUPPLIED BY ARCHITECT**  
**THIS DRAWING IS PURELY INDICATIVE FOR LOCATION PURPOSES**

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