

Treestyle CONSULTANCY

May 2015

BS5837
Trees
in Relation
to design, demolition &
construction survey

A proposed development
At
Crumpax Farm
Crumpax Avenue
Longridge
PR3 3JQ

Author;

Andrew McLoughlin

Treestyle Consultancy

Index	Page
1.0 Instruction and the purpose of the report	3
2.0 The scope of the report - methodology & limitations	4
3.0 Site Description and Nature of Tree Stock	5
4.0 Description of the subject trees	5
5.0 Arboricultural Implication Assessment	6
6.0 Tree protection plan	7
7.0 Arboricultural Method Statement (AMS)	9
8.0 Legal constraints	9
9.0 Conclusions	10
10.0 Methodology	11
11.0 References	12
12.0 BS5837 Tree Survey Schedule	13
13.0 Cascade chart for tree quality assessment	14
14.0 Mapping	15
15.0 Photographs	19
16.0 Fencing	20
17.0 Curriculum Vitae	21

Client:	PGB Architectural Services
Site details:	Mr and Mrs Smith Crumpax Old Farm House Crumpax Avenue Longridge PR3 3JQ
Date of site inspection:	May 2015
Assessor & Report Author:	Andrew McLoughlin NC/HND Arboriculture Treestyle Consultancy
Proposal:	Proposed development

1.0 Instruction and the purpose of the report

1.1 I have been instructed to prepare an Arboricultural Implications Assessment (AIA), an Arboricultural Method Statement (AMS) and to produce a Tree Protection Plan (TPP) in accordance with BS 5837:2012 (Trees in relation to design, demolition and construction – Recommendations), by PGB Architectural Services for the above site. Maps supplied by PGB Architectural Services. The findings are listed in the Conclusion in section 9 page 10.

1.2 This report needs to be read in conjunction with the Tree Protection Plan that accompanies it if any of the trees are to be retained.

1.3 To assess the implications of the proposed extension of the property with regards to the close proximity to trees and to provide a method statement for the potential works that surround the area that may be affected by the site development. Then to provide tree protection measures for any retained trees during the construction phase.

1.4 To provide a schedule of tree works to accompany a planning application.

2.0 The scope of the report - methodology & limitations

2.1 The tree survey process consisted of a ground-based visual inspection only.

2.2 The inspection consisted of an aboveground inspection only. Soil types were not assessed.

2.3 This report is valid for one year from the date of site inspection. The condition of trees can change following severe weather conditions, the effects of diseases or pests and other abiotic factors.

2.4 Any works concerning neighbouring trees may require the consent of the respective owners. These trees have not all been inspected because access couldn't always be gained. Access wasn't gained to the property that houses some of the trees. No defects were obvious at the time from any of the crowns of the trees where access couldn't be gained. Please note the trees were observed from a short distance.

2.5 Only trees over 100mm in diameter at 1.5 meters have been included in the report. This is in accordance with British Standard for trees in relation to construction BS 5837:2012 (Trees in relation to design, demolition and construction – Recommendations). There are quite a few small trees within the orchard that have not been included. Another party produced the topographical mapping supplied to myself, the trees have been edited utilising this information.

2.6 No details relating to the location or the installation of services have been supplied. Therefore this report can only deal with this issue in a preliminary manner. The positioning of services should be approved by the appropriate organisation.

3.0 Site Description and Nature of Tree Stock

3.1 The area surrounding Crumpax Old House is in an urban area of Longridge and set back from the busy Inglewhite Road. The proposed plot is located alongside Crumpax Farm in the side garden area. There is predominately residential housing all around.

3.2 The garden that the development is proposed is set on a raised area of ground to the front (south) and flows through to the rear garden (north).

3.3 There is a good quality and well maintained hedge that greets you from the main road, this area then moves towards the rear of the garden (north) with several small but mature trees that screen the neighbouring residential buildings. There is a hedge that separates the front and back garden

3.4 The rear garden comprises of a central grassed area with several planted Birch and Cherry trees that border the area, these are young/mature and are relatively small.

4.0 Description of the subject trees

4.1 The table of results in section 12 page 13 and the submitted plan show the condition of the trees and their suitability for retention according to the British Standard for trees in relation to construction BS 5837:2012 (Trees in relation to design, demolition and construction – Recommendations). This guidance sets out four categories of trees; from trees that are highly desirable to retain (A), through (B) to trees that may or may not be suitable for retention (C) and trees to be removed (U). This system assesses the trees health and condition. In addition other factors such as their long-term impact on adjacent structures and good arboricultural management. A more detailed breakdown of this is included in Section 13 page 14.

4.2 Trees marked 'U' have a condition that mean they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. However, they may have existing or potential conservation value that might be desirable to preserve. Trees marked 'C1 – C3' are insignificant or immature specimens or those not of sufficient quality to be in the higher 'A' and 'B' categories. **'C' trees should be retained where possible or where it suits the development layout but there is a general presumption that they can be removed to facilitate development if necessary.** These trees are easily replaced with suitable landscaping.

4.3 There are no trees listed under the A category, this equates to 0% of the tree population that may be affected by the development

4.4 Ten trees listed are list under the B category this totals 91% of the tree population that may be affected by the development. These all provide some sort of screening.

4.5 One tree falls within category C that equates to 9% of the tree population that may be affected by the development, these have a limited future.

4.6 There are no trees that fall into category U, this equates to 0%.

5.0 Arboricultural Implication Assessment

5.1 The general quality of the tree stock directly affected by the proposed development provides some screening, but these trees are most small, young/mature and would be easily replaced.

5.2 All of the trees in the front part of the garden area would be affected by the development and will require to be removed.

5.3 Trees in the very far end of the garden could be retained according to the map, not essential but beneficial. Trees T9, T10 and T11 will require fencing off if they are to be retained. All other trees and hedges in the rear garden will be required to be removed.

6.0 Tree Protection Plan

6.1 The Tree Protection Plan (TPP) shows the ground to be designated as a Root Protection Area (RPA). The RPA also represents a Construction Exclusion Zone (CEZ).

6.2 It should be noted that the full RPA cannot always be achieved on site due to ground constraints. The RPA can also be tailored to some extent given the structure and condition of individual trees. The CEZ shows the area that should be kept free of development work

Root damage can be minimised by using;

- Piles. With site investigations used to determine their optimal location whilst avoiding damage to roots important for the stability of the tree, by means of hand tools or compressed air soil displacement, to a minimum depth of 600 mm.
- Beams, laid at or above ground level, and cantilevered as necessary to avoid tree roots identified by site investigation.

6.3 The following are precautions that must be taken within the RPA:

- Fencing to be erected prior to any development commencing on site or any materials or machinery associated with development are brought onto the site.
- The fencing shall be maintained for the duration of the development unless otherwise agreed by the Local Planning Authority or in accordance with the approved plans and particulars.
- No materials, machinery, chemicals or fuel shall be stored within the RPA for the duration of the development.
- The ground levels within the RPA shall not be lowered or raised without the consent of the Local Planning Authority and/or in accordance with the approved plans and particulars.
- Dwellings should be constructed with a ventilated air space between the underside of the slab and the existing soil surface (to enable gas exchange and venting through soil surface). This should be a three dimensional cellular confinements system. The design of the foundation should take account of any effect on the load bearing properties of underlying soil from the redirected roof run off. Approval in principle for a foundation that relies on topsoil retention and roof run off under the slab should be sought from the building control authority prior to the approach being installed. Where piling is to be installed near to the trees, the smallest practical pile diameter should be used, as this reduces the possibility of striking major tree roots and reduces the size of the rig required to sink the piles.
- Following treatment with herbicide, existing vegetation shall be removed once dead by the use of hand tools e.g. spade or fork and shall not be removed by machinery.

6.4 Protective measures outside the RPA: The following are additional precautions outside the RPA. In addition to the ground protection within the RPA the following should be addressed or avoided

- a) Care should be taken when planning site operations to ensure that wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Such contact can result in serious damage to trees and might make their safe retention impossible. Consequently, any transit or traverse of plant in close proximity to trees should be conducted under the supervision of a banks man to ensure that adequate clearance from trees is maintained at all times.
- b) Material that will contaminate the soil, e.g. concrete mixings, diesel oil and vehicle washings, should not be discharged within 10m of the tree stem.
- c) It is essential that allowance be made for the slope of the ground so that damaging materials such as concrete washings, mortar or diesel oil cannot run towards trees.
- d) Fires should not be lit in a position where their flames can extend to within 5m of foliage, branches or trunk. This will depend on the size of the fire and the wind direction.
- e) Notice boards, telephone cables or other services should not be attached to any part of the tree.

6.5 Installation of new services: No services should be installed within the root protection area (RPA). Should existing services within the RPA need upgrading this should be done in accordance with the advice of a suitably qualified Arborist and using a method approved by the Local Planning Authority.

6.6 Site monitoring: British Standard for trees in relation to BS 5837:2012 (Trees in relation to design, demolition and construction – Recommendations). requires that any RPAs are monitored during construction by a qualified and experienced Arborist. An appointed Arborist should be involved with the pre-commencement discussions and oversee the tree protection measures.

6.7 Construction plans: The RPA should be marked on all the construction plans to prevent any breach of the protection measures and planning conditions.

6.8 Tree root protection areas

Tree / Hedge Number	Species	BS5837 Category	Root Protection (Radius m)	Root Protection (Area m2)
9	Tibetan cherry	B2	1.8	10
10	Tibetan cherry	B2	1.2	5
11	Cherry	B2	1.2	5

7.0 Arboricultural Method Statement (AMS)

7.1 Any required tree pruning or tree removal should be carried out prior to commencement of the extension.

7.3 Protective fencing is to be installed prior to any building being undertaken or any building materials being brought on site. This is still to be inspected by a qualified Arborist.

7.4 For this section the following methodology is to be applied:

- 1) *Pre commencement site meeting with site manager, works crew and appointed Arborist. The appointed Arborist will fully explain how this AMS is to be executed and answer any questions.*
- 2) *The excavation of the current soil levels to what they are now required without changing the soil profile of any remaining trees.*
- 3) *Distances from the trees should be identified and the RPA marked out.*
- 4) *Ensure that fencing is installed in accordance with the Tree Protection Plan See section 7 page 9. This fencing defines the working area. Distances can be seen on the page 18, the maps on page 15 onwards and fencing criteria on page 20.*
- 5) *Once fencing installed then work can commence.*
- 6) *Only roots below 25 mm in diameter can be severed.*
- 7) *Fencing can only be removed once permission from the LPA's tree officer is received.*
- 8) *Once this has been completed a qualified Arborist must inspect the site, only then can machinery enter the site and construction begin.*
- 9) *A tree survey must be carried out approximately 24 months after the extension has been completed.*

8.0 Legal constraints

8.1 Trees subject to statutory controls: The site may be subject to a Tree Preservation Order (TPO). If this is the case then any works to trees covered by the TPO will need the consent of the Local Planning Authority (LPA), unless exempt. The site may also be within a Conservation Area. If this is the case it is necessary to give six weeks prior written notice of intent to the LPA before any tree works other than certain exemptions can be carried out. Any works specified herein are necessary for the proposal to be implemented, and if approved, should be acceptable to the LPA. However, this should be confirmed in writing with the LPA prior to being implemented.

8.2 Statutory wildlife obligations: The Wildlife and Countryside Act 1981 as amended by the Countryside and Rights of Way Act 2000 provide statutory protection to birds, bats and other species that inhabit trees. All tree work operations are covered by these provisions and advice from an ecologist should be obtained before undertaking any works that might constitute an offence.

9.0 Conclusions

9.1 The best quality trees and hedges are located at the front of the properties garden. This is predominately the Laurel hedge that screens the garden from the road. The amenity value of this hedge is high as it is visible to the passing public who can appreciate it.

9.2 The neighbouring Hawthorn (*Crataegus monogyna*) is covered in Ivy and has multiple stems. Next to this are two Prunus, these again have multiple stems but do provide screening from the neighbouring property.

9.3 The trees in the rear garden are young/mature but are small and easily replaced. Their retention is desirable but not essential.

9.4 None of the trees or hedges are of maturity or of particularly good quality and therefore shouldn't prevent any potential development.

10.0 Methodology

The data recorded includes:

Height - Where access to the tree was not possible the Heights were estimated.

Diameter - measurements taken at 1.5 metres above ground level (complying with requirements for BS 5837:2012 (Trees in relation to design, demolition and construction – Recommendations)). Where multiple stems occurred below 1.5m the measurement was taken as the point immediately above the root flare.

Girth data was gathered using a metric diameter tape, callipers or estimated when no access.

Tree crown spread – estimated measurement of the four cardinal points to provide information to be used with the arboricultural constraints plan

Tree Crown Clearance – crown height above ground level

Tree condition - judged visually using the guidelines produced in the report. The condition is indicated with the appropriate colour on the map found in the report

Age class - estimated from an examination of the tree in question.

10.1 Age Classification

The following classification is employed:

Y - Young: MA – Middle Aged:

M - Mature:

OM- Over mature:

V – Veteran:

Saplings and young trees under 10 years of age

Trees older than 10 years but less than one third of the life expectancy of their species, normally making substantial extension growth.

Trees between one third and two thirds of the life expectancy of their species. More or less full height and large girth, increasing only slowly.

Trees beyond two thirds of the life expectancy of their species. No significant extension growth. Crown starting to break up and decrease in size.

tree that shows features of biological, cultural or aesthetic value that are characteristic of an individual surviving beyond the typical age range for the species.

10.2 Estimated Remaining Contribution in Years

The estimated remaining contribution in years is an estimate based on currently known factors of the possible remaining life of the tree as an asset. Clearly, it is impossible to predict changes in condition which may occur in the future and this reflects what is considered reasonable under existing circumstances, The following classification is employed:

Death or removal is likely within less than 10 years Death or removal is likely within 10-20 years. Death or removal is likely within 20-40 years.

Death or removal is likely beyond 40 years The estimated remaining contribution in years will be dependent on the interaction of the typical longevity of the species, its current age and condition with prevailing environmental factors. The estimated remaining contribution in years also dependent on future tree management that can extend useful life in some instances.

10.3 Tree Condition

The tree survey assessed the individual condition of all trees identified on the site. The assessment of condition is based on a visual and professional view.

The categories considered for Physiological Condition are good, fair, poor and dead.

Structural Condition is also commented on and this will include such items of presence of decay and physical defects.

Trees are living organisms and their condition can change rapidly in response to environmental variables. Condition remarks refer to the date of survey and cannot be assumed to remain unchanged. While there is no such thing as a safe tree, regular inspection of trees is recommended to reduce the foreseeable risks associated with trees. There is currently no published guidance from the UK insurance industry on the frequency of tree inspections. In the German courts a bi-annual routine inspection is normally expected for older street trees, giving an indication of the rapidity of change in condition that can occur.

11.0 References

- 11.1 *British Standards: 5837 - Trees in relation to design, demolition and construction – Recommendations (2012). The British Standards Institution, controlled copy.*
- 11.2 *DEFRA (2013). Wildlife and Countryside Act (WCA) 1981. Accessed 08.03.13 via <http://jncc.defra.gov.uk/Default.aspx>*
- 11.3 *RG Strouts and TG Winter - Diagnosis of ill health in trees*
- 11.4 *Principles of tree hazard assessment and management – David Lonsdale*
- 11.5 *Claus Mattheck and Helge Breloer – Body Language of trees*
- 11.6 *British Standards: 3998 -2010 - Tree work – Recommendations*
- 11.7 *R.G.Strouts and T.G Winter - Diagnosis of ill health in trees*
- 11.8 *NTSG - Common sense risk management of trees*
- 11.9 *Shigo (1986) - A new tree biology*
- 11.1.1 *John Roberts, Nick Jackson and Mark Smith - Tree roots in the built environment (2006)*
- 11.1.2 *Google maps*