



Merewood
Arboricultural Consultancy Services

**Arboricultural Implications
Assessment
and
Method Statement
for a proposed development
at
Former Cox and Wyman premises
Cardiff Road
Reading**

Prepared by
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1.0 Brief:

- 1.1 I am instructed by Thames Properties Ltd to prepare an Arboricultural Implications Assessment to accompany planning proposals for a development at the former Cox and Wyman premises, Cardiff Road Reading.
- 1.2 I am to advise on the likely impact of the development proposals to the trees on and adjacent to the site. I am to provide recommendations for tree retention and protection, including the preparation of a method statement and details of appropriate measures that are to be undertaken in order to minimize the impact of development.
- 1.3 I am to consider the viability of tree retention in the context of the new development, including potential future relationships between trees and buildings and the general infrastructure.
- 1.4 I am to consider the need to provide services to the new development and to advise on the optimum routing of such services to best avoid damage to retained trees
- 1.5 My assessment is based on the data presented in my tree survey dated December 19, 2016, and this document must be read in conjunction with this survey. I refer specifically to the proposed site layout plan (drawing ref A/PP-P10-01) and I also refer to the tree constraints plan prepared in conjunction with my tree survey.

2.0 The Principles of Tree Protection

- 2.1 Site development in any situation has the potential to cause disruption to the surrounding area. In particular, surrounding soil conditions can very easily be affected, and thus tree roots can be adversely affected.
- 2.2 A trees' root system is the most sensitive part of a tree and disruption to that system can have catastrophic effects on a tree, especially in the long term. The effects of development may not be seen until many years, even decades later.
- 2.3 In order to provide the best protection for trees, the British Standard B.S. 5837:2012 'Trees in relation to design, demolition and construction - Recommendations' (The Standard) offers guidance. Spearheading this advice is the principle of establishing root protection areas (rpa's), no go areas that ensure the soil surrounding trees remains undisturbed. Broadly speaking these zones are based on a circle or other suitable polygon according to site conditions with a radius of 12 times the stem diameter of the tree with variation of this formula for multiple stemmed trees (see key to tree survey data sheets – main tree report).

- 2.4 In order to maintain the integrity of the root protection area, it is normal to use protective fencing, erected specifically before works on site commence, that provide a visual and physical barrier to prevent any site activity spilling over onto the tree protection area.
- 2.5 Any ingress into the root protection area must be assessed and agreed by the arboricultural consultant, normally in conjunction with the arboricultural officer of the Local Planning Department before proceeding. Such ingress would usually have to involve additional protection measures and a well thought through methodology.

3.0 Proposed Development

- 3.1 The proposals seek to re-develop the site, including the demolition of the existing factory buildings and boundary treatments and the erection of 96 no. dwellings including associated surface car parking, public realm and landscaping on land at the former Cox and Wyman building, Cardiff Road Reading . A full description of the proposal accompanies the planning application.

4.0 The Trees

- 4.1 The trees have been surveyed in line with the guidelines set out by 'The Standard'. My arboricultural survey report dated December 19, 2016 sets out the data gathered in the tree survey sheets at appendix 2.
- 4.2 I have categorised the trees using the category ratings set out by 'The Standard'. Broadly speaking this involves an assessment of the trees condition, life expectancy, position and significance in the landscape, the presence of other surrounding trees, the form and appearance of the trees and any broader cultural or historical value either of the trees individually or the landscape in general.
- 4.3 The trees are categorised into either a 'remove' (U) category or trees to be retained. In the case of the latter trees, these are further subdivided into subgroups 1, 2 or 3 according to arboricultural value, value in the landscape and cultural value respectively and are rated category 'A', category 'B' or category 'C' according to their importance.
- 4.4 In general category 'A' trees must be retained, category 'B' should be retained if possible and category 'C' trees could be retained but should not necessarily stand in the way of development.
- 4.5 My survey has recorded 6 trees and 1 group of trees, of which 0 are rated category 'A', 5 are rated category 'B';1 is a category 'C' plus 1 category 'C' group and there are 0 category 'U' trees.

5.0 The Impact of Development

5.1 Overview

- 5.1.1 The proposal includes a major re-development of the site that will include the removal of some trees. Other trees are to be retained, although the scheme does have some impact on these.
- 5.1.2 The proposals include extensive tree planting including street trees and trees in more open areas that will result in a significant increase in tree cover overall for the site.
- 5.1.3 The development will result in the direct loss of the birch (T4), a category 'B' tree. In addition to this, two of the recently planted fastigate hornbeams (*Carpinus betulus fastigiata* 'Frans Fontaine') will also need to be removed. These are not being transplanted as they do not fit with the landscaping proposals. The cypress hedge (G1) fronting Cardiff Road is also to be removed.
- 5.1.4 The creation of the main east west drive through the centre of the development will result in an encroachment onto the root protection areas (rpa's) of two trees, the common lime (T2) and the silver birch (T3), both category 'B' trees. In addition the construction of the new houses will also cause some encroachment onto these trees and onto (T1).
- 5.1.5 The encroachment onto the rpa of T1 arises from the laying of a footpath. The amount of encroachment equates to 22m² or 11% of the total rpa. However this does not give an altogether accurate picture of what is here. The existing hard standing surrounding this tree includes a consolidated layer of tarmac lain onto a substantial foundation bed.
- 5.1.6 From this I surmise that tree rots will for the most part be exploiting the soil beneath the tarmac layer and that by removing this layer and replacing it with a foot path there will be a minimal impact on the roots of T1.
- 5.1.7 The same idea can be applied to the trees (T2 and T3). T2 would have an overall encroachment onto its rpa of 46m² or 31% of the rpa. Normally this would be considered excessive and the removal of the tree would have to be considered to make the layout of this scheme work.
- 5.1.8 However, in my opinion a large proportion of this encroachment arises from the laying of the foot path the same as T1, which again would have a minimal impact on roots. True, a smaller proportion of the roots will be affected by the

construction of the main road, but this itself remains within more tolerable limits of encroachment for the tree.

- 5.1.9 The lime (T2) is not a maiden tree. It has been managed by pollarding for some years now and I recommend that this practice is continued. The re-alignment of crown to root ratio will help to mitigate some of the impact of having to build near to this tree and it is anticipated that by re-pollarding the tree now, the lime can be successfully retained and managed for years to come.
- 5.1.10 The same goes for the birch T3. The overall encroachment onto its rpa would be 27m² or 30% of the rpa. Again, this would be considered excessive and the removal of the tree would have to be considered to make the layout of this scheme work.
- 5.1.11 However a substantial amount of the hard standing around the tree is simply replacing the existing tarmac surface and only a small proportion of the rpa is affected by the need to construct the main road.
- 5.1.12 Given there are limited options for these trees (either they are retained or they are felled) taking account of the layout of the scheme, I recommend that they are retained and incorporated into the new scheme. There is a chance that the trees may fail over the next few years, but equally they may survive and continue to provide amenity for year to come.
- 5.1.13 The impact of the construction on the birch (T5) is mitigated by the fact that the existing building will have provided a barrier to root growth to this tree, so the new construction will not affect any roots.
- 5.1.14 There is no additional tree pruning anticipated to enable the proposed scheme to be implemented, but in the event of the need for any pruning becoming apparent and where no alternative can be used, a professional tree surgeon should be employed to carry out the pruning. Pruning cuts should be made cleanly, at an appropriate growth point where possible. Pruning can only proceed with the agreement of the Local Planning Authority.

5.2 The relationship of trees to buildings

- 5.2.1 The proposed development has been set out to avoid the trees around the property as much as possible, providing new planting where appropriate. This has allowed for the provision of a suitable amenity areas for the residents and a good juxtaposition between trees and the buildings.

6.0 Arboricultural Method Statement (AMS)

6.1 Preliminary works

- 6.1.1 Prior to the commencement of works, it is recommended that a set up meeting between the main contractor, any (relevant) sub contractors and the arboricultural consultant takes place. This is to establish a line of communication between the working parties and to understand the parameters of the site, underlining the importance of maintaining and respecting tree protection barriers.
- 6.1.2 If any tree work is needed in order to implement the proposed scheme (i.e. felling or pruning works), this should be undertaken before other works commence on site.

6.2 Erection of fencing

- 6.2.1 Before any works are started on site (other than tree work), tree protective fencing is to be erected as required and in accordance with the tree protection plan (TPP).

6.3 Drains and services

- 6.3.1 The proposed drain and service runs have not yet been detailed but since service runs are normally routed out to the main road underneath the internal roads, there will be no issues arising from this.
- 6.3.2 It is normal practice for services to be laid down before the main works commence on site, often as part of the groundworks that include foundation construction.

6.4 Access

- 6.4.1 The site is accessed from the main road linking Addison Road and Milford Road, and the other feeder roads linking to the main road. This affords plenty of room for turning, site deliveries and so forth without the need to come into contact with any trees.

6.5 Storage of materials

- 6.5.1 The TPP shows that there is plenty of space at various positions around the site for the delivery and storage of materials, so it is proposed to deliver and store these materials where needed according to the different phases of the development.

6.6 Site offices and well-being huts

- 6.6.1 The placement of site huts and other facilities for construction site workers can usually be expected to be close to the entrance of a site for Health and Safety reasons. In this case there are several options for the placing of site huts, all of which would remain well apart from the retained trees.

6.7 Mortar mixing

- 6.7.1 Concrete (when not delivered direct by concrete lorry) and mortar can be mixed a mortar tower from which dumper trucks can deliver to all parts of the site using the new access roads. A mortar tower can be placed well away from any trees.
- 6.7.2 Mortar mixing and the handling of any other hazardous materials shall take place outside the rpa's of trees. Water run-off from the cleaning of either a mortar tower or concrete mixers is to be directed away from rpa's and should take place as far from trees as possible.
- 6.7.3 If necessary a confinement area controlling the run-off shall be installed, incorporating an impermeable layer of strong plastic sheeting help within a raised bed. Washing of cement mixers shall take place only within the confined area.
- 6.7.4 The storage of cement bags and any other hazardous materials shall take place away from the root protection areas of trees.

6.8 Excavation of foundations

- 6.8.1 The style of the foundations to be used is yet to be confirmed and will depend on soil conditions. However, regardless of foundation style the excavation of these foundations can be undertaken working within or adjacent to the footprint of the buildings without the need to interfere with trees.
- 6.8.2 The spoil from the foundations will be loaded onto tipper lorries and taken away using existing access routes. No excess soil is to be deposited within the site parameters.

6.9 Crane operations

- 6.9.1 The offloading of materials such as roofing joists is to be undertaken using a crane where needed. The TPP shows that there is room for a mobile crane to be positioned appropriately at all parts of the site, using the access roads where materials can be hoisted over the buildings using an extension arm, without coming into contact with the branches of the trees.

6.10 Post development operations

- 6.10.1 Following the conclusion of construction operations, scaffolding can be removed to prepare for landscaping operations. Tree protection fencing will also be removed at this stage.

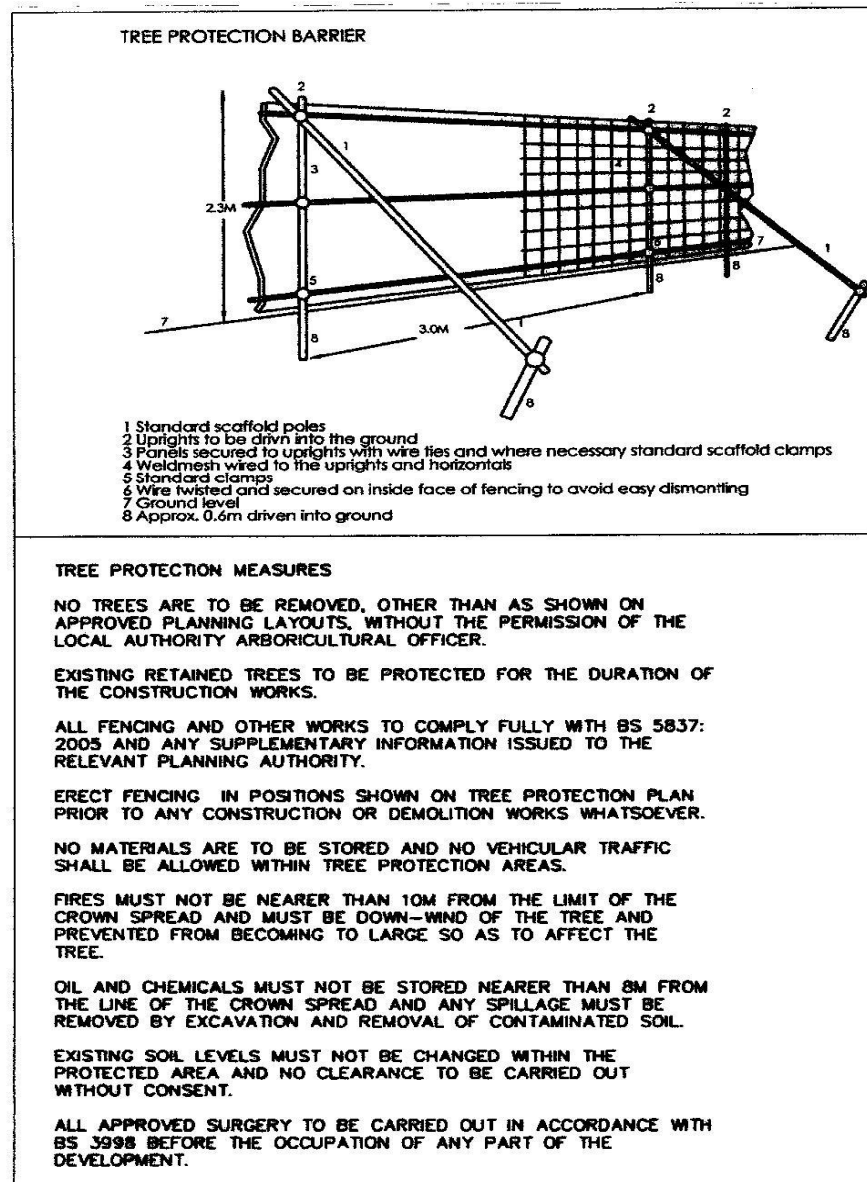
7.0 Conclusions

- 7.1 The development of the site can take place in accordance with the approved drawings, whilst satisfactorily taking account of the trees on site. The tree survey document in conjunction with the Arboricultural Implications Assessment/method statement presented here, sets out tree protection measures and a methodology that must be put in place prior to works commencing and that must be monitored throughout the construction of the development.
- 7.2 The layout of the development allows site access and construction activity to take place with minimal need to come into direct contact with the trees. The roots of these trees will need to be protected using protective fencing where necessary.

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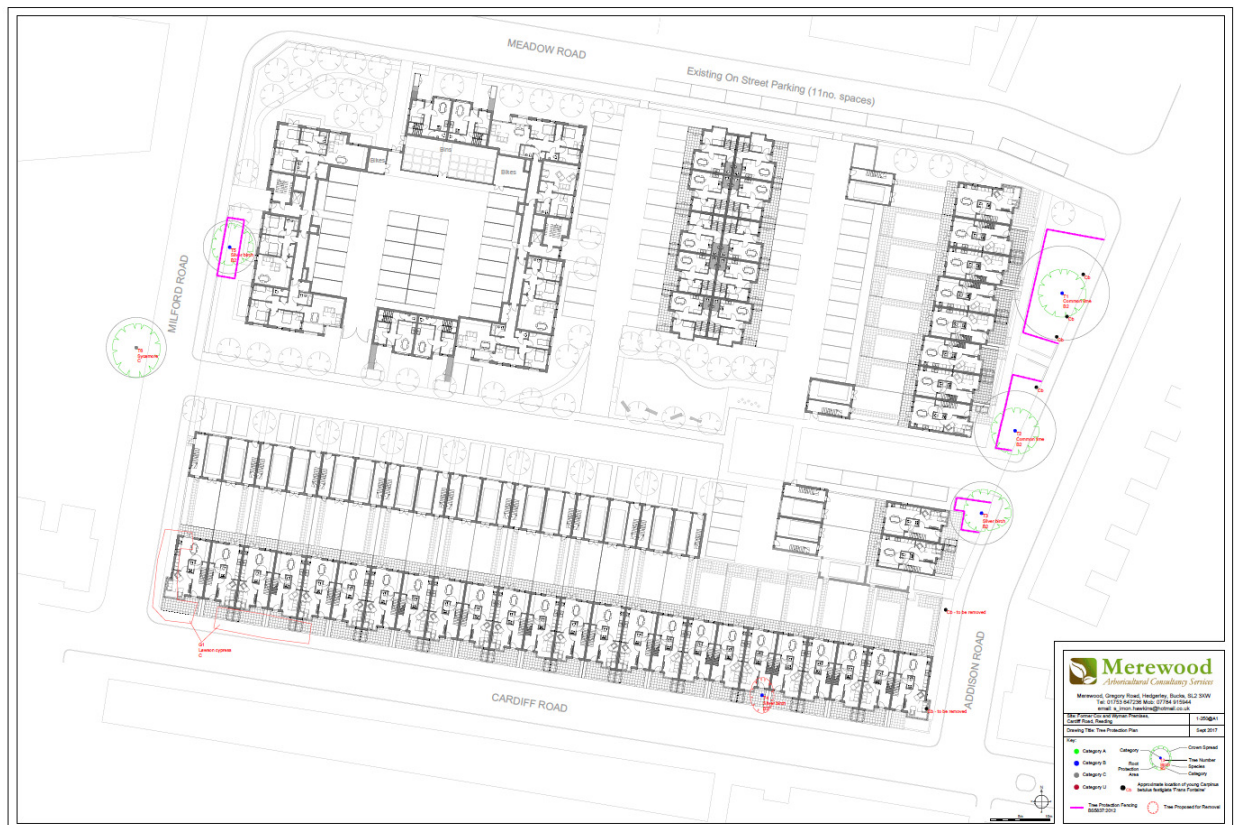
Fig:1

Tree Protection Measures



Appendix 1

Tree Protection Plan



Appendix 3

Arboricultural Method Statement (AMS)

1.0 Pre development works

1.1 The tree survey has identified trees that are to be removed to allow the development of the site to take place. This felling is to take place prior to any other works commencing on site.

1.2 Protective fencing

1.2.1 The tree survey has established the stem diameters of the trees on and around the site. Based upon this information, I have prepared the tree protection plan (appendix 1) that shows the footprint of the proposed buildings. From this it is possible to determine where the root protection areas overlap the areas of development and to make recommendations for the appropriate course of action to protect trees and their roots.

1.2.2 The tree protection plan (appendix 1) shows the line and position of the root protection fencing to be erected prior to any other works taking place on site. The root protection fencing installation shall be approached from within the central working zone to avoid damage within the root protection area itself, in accordance with the recommendations of BS 5837/2012, as illustrated by Fig. 1.

1.2.3 The fencing for the root protection zones shall be constructed of scaffold tube uprights (set at 3m intervals with diagonal braces driven securely into the ground). Thereafter 'Heras' type fencing shall be attached to the scaffold framework using either steel strapping or scaffold clamps. The fencing shall comply with the requirements of the British Standard B.S. 5837: 2012 'Trees in relation to design, demolition and construction - Recommendations'.

1.2.4 The fencing shall completely exclude access during the demolition and construction process. The protected areas shall not be used either for the storage of materials or spoil nor for the mixing of substances or the disposal of any residues nor shall be allowed to be contaminated by the run-off from activities from beyond the protection zone.

1.2.5 There is to be no excavation for plumbing or wiring for services to the site huts/offices taking place below ground level within the rpa's of trees.

1.2.6 There is to be no burning of any materials or substances within 10m of the root protection barriers.

- 1.2.7 At this stage it is recommended that the retained arboricultural consultant visits the site to confirm the correct installation of the fencing.

1.3 Demolition

- 1.3.1 The demolition of the existing buildings will take place before any other works can begin.
- 1.3.2 Demolition of the existing buildings is to take place only once protective fencing has been installed.
- 1.3.3 Demolition will take place using a standard 'top down' method, pulling the existing buildings down from the roof. Accumulated debris is to be gathered by machine and transported to the front of the site for disposal.

2.0 During development

2.1 Foundations

- 2.1.1 The excavation of the foundations is expected to use a traditional strip foundation technique, as there are no specific issues arising and this is the most economical approach.
- 2.1.2 The construction of the new dwellings is mostly sited away from the root protection areas of the trees to be retained (See 5.0 Impact). It is therefore not necessary for any special techniques to be undertaken.

2.2 General considerations

- 2.2.1 The delivery and storage of materials, along with other general site activities are discussed in the Implications Assessment. It is considered that other than maintaining the protective fencing, there are no other special considerations needed for this site.

3.0 Post development

- 3.1 The completion of the main construction period is typically marked by the removal of scaffolding from around the exterior walls, the conclusion of mortar mixing associated with bricklaying and other hard surfacing (i.e. patios) and the finishing of the primary interior works (i.e. plumbing, wiring, plastering and flooring).

- 3.2 Secondary activities such as decorating, carpeting and so forth do not constitute a threat to the well-being of trees and so it is at this stage that protective fencing can be removed. Landscaping can normally be undertaken at this time.

4.0 Site monitoring

- 4.1 The success of any method statement is dependent upon effective monitoring and good communication between the parties involved.
- 4.2 It is therefore necessary to have an initial set up meeting between the main contractor and the consultant arboriculturist to ensure that all parties are aware of expectations and requirements before works commence. If needs be, the local authority tree officer can also be present at this meeting.
- 4.3 Thereafter further monitoring visits can be arranged. The purpose of the visits is to confirm that the relevant stages of the operation are being conducted with the tree protection fencing properly in place. Where tree protection has been neglected or has gotten into poor condition, appropriate advice and remedial measures can be taken to correct this.
- 4.4 Monitoring is to take place throughout the development, although specific times are not necessarily given, as contractors on site should not have advanced warning of visits taking place. Site visits are naturally going to be more frequent at the start of the works when there is more potential for damage to take place.
- 4.5 The following outlines specific times when monitoring will record site operations
- Start up meeting to establish lines of communication and to set out the objectives of working with the arboricultural method statement
 - Initial visit to establish the position of protective fencing to be erected.
 - Confirmation visits following start up activities to ensure that protective fencing is kept in agreed positions and that site activities are satisfactorily confined to the designated areas

- Random monitoring throughout the development as needed to maintain a watching brief and to continue to advise as needed. Final visits at time of completion to ensure landscaping is satisfactorily implemented and at the same time implement any corrective tree surgery or other measures that may have become necessary during the construction.