13.0 TREE IMPACT ASSESSMENT

Why?
Healthy trees are vital to the beauty of the local area. We aim to preserve and protect them, only seeking permission to move them in extreme circumstances. We have a fully qualified Arboriculturalist who is part of our professional team.

The trees within the garden were affected by disease and the subject of a separate application to remove them. This application was granted in May 2012 under reference 12/00298. This is included in this report immediately after our tree impact assessment.

We have agreed to replant 2 x Hornbeam and 1 x Liquidambar as outlines in BS3936 or BS 5236.

Our proposed landscaping design will exceed this agreement by planting 5 mature trees along the western boundary of the garden.

Who?
Andrew Day (HND Arb. M.Arbor.A CEnv) of the Andrew Day Arboricultural Consultancy is an arboriculturist with 10 years experience including 5 years in private practice and 5 years as a local authority tree officer. He is experienced in managing tree stock, protecting trees during project works, and also ensuring the right trees are proposed for the right environment.
ARBORICULTURAL REPORT
Arboricultural Impact Assessment

5 Cresswell Place
London
SW10

3 May 2012


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Scope

The purpose of this report is to provide Arboricultural advice in relation to identifying the constraints of trees adjacent to the site in relation to the proposal to constructing an extension and basement to the existing property in the rear garden, and advice on protection measures to be implemented using the guidelines and principles of BS5837:2012.
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1 INTRODUCTION

1.1 Brief:

This report has been prepared at the request of Cresswell Place Jersey Limited, the project architects, to provide advice on the arboricultural constraints that the Lime tree in the adjacent site presents to the proposal and how the proposed development could impact it, and what protection measures will need to be implemented.

The site was visited on 16 April 2012; the weather was clear, dry with average visibility.

1.2 Qualifications and experience:

I have based this report on my site observations and the provided information, and I have come to conclusions in the light of my experience. I have experience and qualifications in arboriculture and list the details in Appendix 1.

1.3 Documents and information provided:

A plan showing the proposed site layout.

1.4 Relevant background information:

An application to remove a decaying Cherry, a low quality Magnolia and Pittosporum located in the rear garden has been submitted to the tree officer and permission has been granted to remove these trees.

The only tree of any consequence in relation to this project is the Lime tree T1.

1.5 Scope of this report:

This report is only concerned with the Lime tree in the adjacent property that could potentially be impacted by construction works to implement the proposed layout, and the measures required to provide protection for them as best prescribed in the guidance of BS5837: 2005. Any issues regarding construction methods etc. is outside the remit of an Arborist and remedy should be sought with suitably qualified persons, for example builder, engineer etc. For the purposes of this report an Arborist / Arboriculturalist is someone who through training and experience has the knowledge to assess trees and their condition in a competent manner. Trees with a dbh of less than 150mm have not been included as per the guidance in BS5837:2005 or species considered to be shrub specimens.
2 APPRAISAL

2.1 Brief site description:

The site is a semi-detached residential building set in an urban landscape. The only garden space is to the rear and has a few trees and shrubs that I consider to be of no significance in terms of amenity to the site or surrounds. The rear garden is mainly lawn and surrounded by a high brick wall.

2.2 Condition of tree:

The Lime tree in question is located in third party ownership and access to view was only possible via a small door in the boundary wall. From what I could assess, there appeared to be no signs of pests or diseases normally associated with this species and the tree could be considered to be in a healthy condition.

A more detailed analysis of the tree and preliminary management requirements can be found in Appendix 3.

2.3 Suitability of trees for location and management requirements at present:

As far as I am aware the tree is not affecting the buildings or boundary wall in close proximity it. From my observations there do not appear to be any signs that the tree is causing damage to the wall given its proximity to it. The crown of the tree appears to have been previously pollarded; I expect to contain its growth given the proximity of the surrounding buildings. I suggest that consideration is given to undertaking this work again to ensure a regular maintenance regime is adhered to. Trees left unmanaged can have a higher risk of branch failure at these pollard points as the branches increase in size and weight. The growth potential of this tree means that the branches could also extend onto the adjacent properties and cause abrasion damage, if allowed to encroach this far. Another issue that the re-pollarding works will help to mitigate against is the blocking of natural daylight to the adjacent properties from the canopy and the deposit of 'honey dew', a sticky residue from aphids within the foliage of the tree. The tree does not appear to be having any negative impact on the boundary wall adjacent to it at this moment in time, but it is possible it could cause displacement damage via incremental growth of the main stem as it matures. This will need to be monitored to ensure the wall does not become unsafe and a danger to users of the site or neighbouring properties.
2.4 Potential effects of development on the tree:

The distance of the tree to the basement development means a notable portion of its RPA (root protection area) will be compromised. See tree constraints plan in Appendix 5. However, a trail pit was excavated to a depth of 600mm adjacent to the tree to assess if the boundary wall was acting as a root barrier and preventing root growth within the site. From these investigations it would appear that this is the case as not even any fibrous roots that I consider to emanate from the Lime were present. There were some fibrous roots present in the trial pit, but I think it is reasonable to assume these are from the adjacent shrubs. I believe that the foundations of this wall have acted as a root barrier, deflecting root growth in a parallel direction along the length of the wall. This wall is likely to be older than the trees and therefore it is reasonable to see why this pattern of root growth could have developed. Despite the extent of excavation in the RPA of this tree, I am confident that a significant amount of the roots are contained in the neighbouring property down to a depth of at least 600mm. Lime trees are known to be tolerant or construction pressures and root pruning. If any roots had grown under the foundations of the wall, these could be pruned suitably and would unlikely to have any impact on the trees health or longevity. The tree is sufficiently protected from construction pressures by being located in third party ownership and having the boundary wall between it and the construction zone, therefore collision damage by work on site is unlikely to occur. There could be a risk of contamination to any roots from concrete used in the construction of the basement that could leach into the rooting zone; to prevent this geotextile barrier could be placed around the outer edge of the basement walls.

In this case no protection fencing is required because the boundary wall will serve this purpose.
2.5 Potential effects of the tree on the development:

The tree is unlikely to have any significant effect on the development as the majority of it is underground. However, the placing of seating areas etc. on the terrace will need to be well thought out to ensure that any canopy overhang by the tree does not become a nuisance with possible deposits from aphids or roosting birds. Leaf litter could become a problem if it causes drains and guttering to become blocked, as this can cause other problems that can have a more notable impact on the building, or if in times of wet weather they could create a slip hazard. Scheduled maintenance can be implemented to address these issues, along with the use of gutter guards. Shadow cast will not be an issue, because the orientation of the site means any shadow cast form this tree falls into the neighbouring properties.

2.6 Proposed solutions to safe guard the trees during construction works:

2.6.1 Protective fencing

In this case no protection fencing is required because the tree is located off site and a boundary wall will prevent any collision damage occurring.

2.6.2 Services

Given the extent of the excavation works in the RPA, any service runs will be at a depth greater than 12m, so are unlikely to have any notable impact on roots from this tree.

2.6.3 Site facilities and material storage

Space constraints are extremely limited on site, no materials will be stored within the RPA of the Lime tree during preparation works on site. All materials will be stored either off site or within the building. This will be confirmed by the project manager.

2.6.4 Works within RPA

Arboricultural supervision will be implemented during the initial excavation stages down to a depth of 2m; to undertake any root pruning works that might be required. As previously mentioned, it is unlikely roots will be compromised due to the boundary wall acting as a root barrier.
2.6.5 **Site supervision**

Prior to work, all key personnel connected with the site will be briefed by an arborist with regard to the importance of the tree protection and methods of ensuring that the tree is protected during the construction period. Site supervision will only be implemented during the initial excavation works to a depth of 2m, as specified in 2.6.4 above.

2.6.7 **Site completion**

Once work has been completed, an arborist will inspect the tree and comment on its condition and prescribe any mitigation works required.

2.6.8 **Tree management works**

No tree management works are required to implement this proposal. However, considerations into negotiating with the neighbours to re-pollard the tree to reduce the canopy overhang to the site to prevent birds or insects depositing mess on objects below could be instigated. This work will be mutually beneficial to the neighbouring properties too as it will allow more light to residential rooms.

2.6.9 **Proposed replanting**

Consent has been given to remove some low quality trees from site, the client does appreciate the value of trees on this site for screening and softening of the site and surrounds. Therefore it is proposed to plant, parallel with the rear boundary wall, two Hornbeam trees to the right and left of the site, with a Liquid Amber tree as a central feature in the middle. The trees will be planted with stem girths of between 20cm – 25cm in order to provide instant impact and screening. It is felt that the Hornbeam trees can be managed to provide a screening element and offer diversity within the tree stock in the surrounding landscape by being native species. The Liquid Amber with its conical growth habit can be maintained to accommodate the site constraints and provide a striking visual feature framed between the two Hornbeam trees. A selection of shrubs will be used as under storey planting that will be chosen to be of ecological benefit and attract local wildlife, as well as providing amenity and easy maintenance for the property.
3 CONCLUSIONS

- Initial hand dug trial pits indicate that no roots from the Lime tree have encroached onto the site, and that the wall has acted as a root barrier.

- The Lime tree is protected from activates on site by the boundary wall and therefore there is no risk of collision damage to any part of the tree.

- Limes are tolerant of construction pressures and root pruning. If roots are discovered at depths greater than 600mm, it is likely that these will be insignificant and corrective root pruning will not have any detrimental impact on the tree.

- Due to space constraints on site and the proposed layout, there will not be any material storage issues that could impact on the tree.

- The proposed new planting will enhance the site in terms of screening and amenity, as well as its ecological importance in the surrounding landscape.

4 OTHER CONSIDERATIONS

4.1 Trees subject to statutory controls:

The Lime tree is subject of a tree preservation order, also it is within the Boltons conservation area. Therefore it will be necessary to consult the local authority before any works other than certain exemptions can be carried out. I suggest that the local authority is kept updated with any proposed tree works so as to form a good working relationship and to prevent misunderstandings or contravention of protection measures.

Andrew Day HND Arb
For Andrew Day Arboricultural Consultancy Ltd.
Appendix 1

Brief qualifications and experience of Andrew Day

I hold a Higher National Diploma in Arboriculture. I have been working in the field of arboriculture for approximately 10 years, spending time as a contracting arborist undertaking all aspects of practical arboriculture both in the UK and Europe. I have also worked within local government as a tree officer working for a variety of local authorities. I have a broad experience of both the practical and theoretical aspects of arboriculture having worked within the public and private sector. I am currently a consulting arborist for Essex Arboriculture.

1. Qualifications:

   Higher National Diploma in Arboriculture (1996)

   NPTC (National Proficiency Training Council) units 20, 21 and 22

   Lantra professional tree inspection certificate

2. Practical experience:

   Prior to establishing my company I worked for a private Arboriculture company for three years undertaking many practical aspects of Arboriculture. I moved on from this to become a local authority tree officer for five years, my duties included consultation on planning matters with regard to trees, advice to the general public, managing the council’s tree stock and liaising with other professionals on Arboricultural related issues. I was approached by EssexArb an established tree contracting and consulting company in Essex to develop and run the consultancy department as their principle consultant which I did for three years.
### Appendix 2

**SITE PHOTOGRAPHS**

<table>
<thead>
<tr>
<th>A view of T1 On the side of the boundary wall</th>
<th></th>
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</thead>
<tbody>
<tr>
<td><img src="image1" alt="A view of T1 On the side of the boundary wall" /></td>
<td><img src="image2" alt="A view of T1 On the side of the boundary wall" /></td>
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</table>

<table>
<thead>
<tr>
<th><strong>A view of T1 from within the rear garden of the site</strong></th>
<th><strong>Showing no roots from the Lime tree in the trial pit dug adjacent to the T1 and the boundary wall</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3" alt="A view of T1 from within the rear garden of the site" /></td>
<td><img src="image4" alt="Showing no roots from the Lime tree in the trial pit dug adjacent to the T1 and the boundary wall" /></td>
</tr>
</tbody>
</table>

Ref 0528: 5 Cresswell Place, London, SW10
SITE SPECIFIC INFORMATION

Explanatory Notes

Tree Survey

Tree Protection Method Statement and Protection Criteria

Root Protection detail
Explanatory Notes

**Measurements/estimates:** All dimensions are estimates unless otherwise indicated. Measurements taken with a tape or clinometer are indicated with a ‘*’. Less reliable estimated dimensions are indicated with a ‘?’.

**Species:** The species identification is based on visual observations and the common English name of what the tree appeared to be is listed first, with the botanical name after in brackets. In some instances, it may be difficult to quickly and accurately identify a particular tree without further detailed investigations. Where there is some doubt of the precise species of tree, it is indicate it with a ‘?’ after the name in order to avoid delay in the production of the report. The botanical name is followed by the abbreviation sp if only the genus is known. The species listed for groups and hedges represent the main component and there may be other minor species not listed.

**Height:** Height is estimate height to the nearest metre.

**Spread:** The maximum crown spread is visually estimated to the nearest metre of the total crown spread diameter. It should be noted that the crown of some trees can be one side, however this is usually indicated within the report.

**Diameter:** These figures relate to 1.5m above ground level and are recorded in centimetres. Estimate measurements are banded 0-10cm, 11-20, 21-30 etc. If appropriate, diameter is measured with a diameter tape. ‘M’ indicates trees or shrubs with multiple stems. ‘AV’ indicates average and is the average of two stems when dealing with twin stem trees.

**Estimated Age:** Age is assessed as mature (last one third of life expectancy), semi-mature (one third to two thirds life expectancy) and young (less than one third life expectancy).

**Condition:** G – Good, F – Fair, P – Poor, D - Dead

**SULE:** This is the estimated Safe Useful Life Expectancy of the tree. Trees can live longer than this value, but can pose a risk to persons or property.

**BS 5837 2005** - On the basis of this assessment, trees can be divided into one of the following categories:

- **A** - Trees whose retention is most desirable; High category
- **B** - Trees where is desirable; Moderate category
- **C** - Trees which could be retained; Low category
- **R** - Trees for removal; Fell category
<table>
<thead>
<tr>
<th>Tag</th>
<th>Name</th>
<th>Age</th>
<th>Height (m)</th>
<th>Stem Dia (mm)</th>
<th>Crown clearance (m)</th>
<th>Crown Spread (N S E W) (m)</th>
<th>Condition</th>
<th>Sule</th>
<th>Recommendations</th>
<th>BS Cat</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>Common Lime <em>(Tilia X europaea)</em></td>
<td>M</td>
<td>18</td>
<td>550</td>
<td>3</td>
<td>4 5 5 5</td>
<td>G</td>
<td>20-40</td>
<td>Located in third party ownership adjacent to boundary wall. Inspection detail limited. Appears to be in a healthy condition. Has previously been pollarded. Consider re-pollarding back to previous points.</td>
<td>B3</td>
</tr>
</tbody>
</table>
Method Statement for Tree Protection Measures

PROJECT: 5 Cresswell Place, London, SW10

CLIENT: Cresswell Place Jersey Limited

1.1 Brief

Provide protective measures specification for a Lime tree in the neighbouring property to be retained using the guidelines and principles prescribed in BS5837: 2012 ‘trees in relation to construction’.

1.2 Chronological order of events

An important factor in providing protection for the tree during the construction works is the chronological order in which development tasks are undertaken. Before further work continues on site, the following issues will be completed.

- All site personnel will be given a briefing by the supervising arborist as to how their actions could impact on the tree and measures to be administered to prevent any harm coming to the Lime.

- A trial trench will be extended along the length of the wall adjacent to the tree to a depth of 2m. This will be hand dug and works supervised by an arborist. If any roots from the Lime are discovered they will be appropriately pruned back from the construction zone.

- A geotextile membrane will be placed between the basement wall and the location of the tree to prevent any contaminants leaching into the trees rooting zone.
1.3 **Table 1** shows the root protection area as designated in the guidelines of BS5837 2012.

<table>
<thead>
<tr>
<th>Tree No</th>
<th>Root protection Area (m²)</th>
<th>Circle Radius (m)</th>
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<tbody>
<tr>
<td>T1</td>
<td>136.8</td>
<td>6.6</td>
</tr>
</tbody>
</table>

1.4 In this case no protective fencing for the tree is required due to the boundary wall serving this purpose. At no point are construction activities or vehicles to access the area surrounding where the tree is located.

1.5 Within the root protection area the following activities will be prohibited, unless the local authority in writing grants specific permission:

   No storage of chemicals or other substances likely to leach and cause harm to the trees to be stored.

   No storage of heavy plant or materials likely to cause further soil compaction.

   No activities that could indirectly affect the tree such as bonfires etc.

1.6 Storage of chemicals will be placed in a sealed area, with no discharge allowed onto the ground or watercourses. The area containing these materials will have an impervious surface and stored if possible 10m away from the RPA. If accidental spillage of chemicals or other damage to the tree takes place the local authority is to be notified as soon as possible, an arborist is consulted as to the best actions to take to mitigate any damage that may have occurred as a result of the accident and these works to be undertaken to mitigate the situation as soon as possible.

1.7 Particular attention will be made to the type of materials to be stored and the type of machinery needed to move them, ensuring that sufficient protection measures in accordance with this method statement and space are provided to prevent damage to the trees to remain.

1.8 No excavation work apart from those granted in the planning permission is to be undertaken within the confines of the RPA without the written permission of the local authority.
Site Personnel Contact Information

As far as I am aware the only personnel associated with this site at the time of writing this report is the project architect. Table 2 shows the contact details of the project architect.

Table 2

<table>
<thead>
<tr>
<th>Name</th>
<th>Relation to Site</th>
<th>Contact Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albyns</td>
<td>Project architect</td>
<td>0207 349 6415</td>
</tr>
</tbody>
</table>
LIMITATIONS AND QUALIFICATIONS
LIMITATIONS AND QUALIFICATIONS

Unless specifically mentioned the report will only be concerned with ground inspections. No below ground inspections will be carried out without prior confirmation from the client that such works should be undertaken.

The validity, accuracy and findings of this report will be directly related to the accuracy of the information made available during the inspection process. No checking of independent data will be undertaken, Andrew Day Arboricultural Consultancy will not be responsible for the recommendations within this report where essential data are not made available, or are in accurate.

This report will remain valid for one year from the date of inspection, but will become invalid if any tree works not recommend within the report are undertaken, soil levels around the trees are altered in any way and if any building works which were not disclosed during the inspection are undertaken.

If any of the above occurs then it is strongly recommended that a new tree inspection is carried out.

It will be appreciated, and deemed to be accepted by the client that the formulation of the recommendations for the management of the trees will be guided by the following:

1. The need to avoid reasonable foreseeable damage
2. The arboricultural considerations – Tree safety, good Arboricultural practise and aesthetics.

The client is deemed to have accepted the limitation placed on the recommendations by the sources quoted in the attached report. Where time constraints, or the client limits sources, this may lead to an incomplete quantification of the risk.
TREE CONSTRAINTS PLAN

(Please refer to separate A3 sheet for scaling if required)