# Wood Consulting

Caring for your environment & property **Environmental Limited**

Horticultural, Arboricultural, Landscape Consultant & Contractors

# Arboricultural Impact Integration Assessment Report:

# 58 Rosemont Road, Richmond, TW10 6QL

Report Date: 28th May 2024

Ref: WCEL/PEW/AIAR/0528:24



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False Acacia (T1) Left Foreground in Rear Garden of Site &
Cappadocicum Maple (T2) Left Background in Neighbouring Rear Garden

# Arboricultural Report

Location: 58 Rosemont Road, Richmond, TW10 6QL
Ref: WCEL/PEW/AIAR/0528:24
Client: Jackie Beaton
Report Date: 28th May 2024 Rev 1: n/a
Date of Inspection: Tuesday 10th May 2024
Prepared by: Philip Wood BSc(Hons)LAM.

*Please note that abbreviations introduced in* [Square brackets] *may be used throughout the report.*

**Instructions**
**Issued by – Verbally by Caroline Fansa on behalf of the Client**

**TERMS OF REFERENCE – Wood Consulting Environmental Limited [WCEL] were instructed to survey the subject tree(s) within the rear garden of the site and neighbouring property close to the proposed development in order: to assess their general condition; constraints they may pose to development; the potential impact that the changes on site may have on the tree(s) and identify recommendations (where appropriate) to safeguard or limit the impact on the health of the tree(s); provide an assessment of the new rear extension. The proposed works are to extend the rear of the house and on the raised terrace area and make internal changes to the house. This is to create a new kitchen diner area while improving the internal configuration of the house. Two trees were inspected near to the proposed extension, one on the site and one in the adjoining garden. The neighbour's tree has recently had surgery, which is thought to have been to address the trees size and impaired condition. WCEL are to also assess appropriate safeguards to limit impact to these trees from the changes proposed on site.**

**The existing house has a small projection to the rear and part of the main envelope of the new rear extension is located over the existing extension, which is to be demolished, and then replaced with the new enlarged rear extension which will be at the same level as the existing house. The existing terrace is located at a higher level and has various retaining walls and brick planters that have been installed years ago to support the raised terrace area and deal with the changes of level from the front of the site to the rear. The main trees of interest are two trees (T1-T2) which are located at a moderate distance from the proposed extension. It is known that the trees are located within a conservation area. Therefore, there are planning restrictions on pruning or removal, of the trees including both branches and roots of the tree(s) without reference to the Local Planning Authority.**

**The Local Authority give guidance related to development near trees and where there may be some tree related impact, the proposed development should be assessed by an arboricultural consultant to safeguard the long-term health and well-being of the trees on, or adjacent, to the site for the future sustainability of the local area. Also, where trees are affected by a proposed scheme the impact should be assessed in accordance with the current standard.**

## Executive Summary

The proposal is to demolish the existing small rear extension and extend the rear of the house with an enlarged extension on the raised terrace area and make internal changes to the house. This is to create a new kitchen diner area while improving the internal configuration of the house.

The existing house has a small projection to the rear and part of the main envelope of the new rear extension is located over the existing extension, which is to be demolished, and then replaced with the new enlarged rear extension which will be at the same level as the existing house. The existing terrace is located at a higher level and has various retaining walls and brick planters that were installed years ago to support the raised terrace area and deal with the changes of level from the front of the site to the rear. The terrace will remain at the same level as existing limiting alterations outside the envelope of the extension.

Given that the terrace is around 1.1m higher than the level of the garden where the trees are growing it is our opinion that root activity under the terrace will be much less active and limited compared to a root system grown in open level ground. Therefore, based on the theoretical radial root protection area the foundations of the enlarged extension would have a very small segmental incursion into the root protection areas, though with the likelihood of root presence being reduced due to the depth of soil load we consider the likely impact to negligible if at all. However, safeguards have been identified in the recommendations for arboriculturally supervised watching brief excavation of the foundations in the area closest to the trees, where it is within the root protection area, to determine the presence or absence of roots, so that should it be necessary the foundation design can be adjusted in consultation with the structural engineer.

The main trees of interest are two trees (T1-T2) which are located at a moderate distance from the proposed extension. T2 in the neighbour's garden has recently had surgery, which is thought to have been to address the trees size and impaired condition. It has some significant deadwood and decay of old wounds of some large scaffold limbs where it appears to have been pruned before. Based on the current design, the new extension would make very little change to the 'structures to tree relationship' already seen on site. Guidance is included in this report in relation to precautionary working practices that should be implemented to reduce the likelihood of the scheme's implementation having any significantly detrimental impact on the long-term health of the neighbouring trees.

The proposed scheme has been appropriately designed and modifications made in discussion with WCEL, with the design and construction detail having been prepared to aid the protection of the trees during construction, subject to appropriate safeguards, tree protection measures and principles for appropriate site-specific sensitive methods of working are noted in this report. This site-specific assessment has been made which provides parameters to follow to reduce the potential impact to the trees while protecting as much of the the root system of trees from direct physical damage. If carried out sympathetically with appropriate tree protection measures this will greatly reduce the negative impact to the trees, which in turn will reduce the visual impact to the broader amenity of the area.

## Documents Supplied

Caroline Fansa Supplied the following documents prior & subsequent to the site visit:

| | | | | |
|---|---|---|---|---|
| 1. | Proposed Site Plan | Date: 14-05-2024 | Dwg No: RR-P001 | Rev: - |
| 2. | Proposed Rear Elevation | Date: 30-04-2024 | Dwg No: RR-P503 | Rev: B |
| 3. | Existing Site Plan | Date: 22-05-2024 | Dwg No: RR2-EX001 | Rev: - |
| 4. | Existing Ground Floor Plan | Date: 22-05-2024 | Dwg No: RR2-EX002 | Rev: - |
| 5. | Existing First Floor Plan | Date: 22-05-2024 | Dwg No: RR2-EX003 | Rev: - |
| 6. | Existing Second Floor Plan | Date: 22-05-2024 | Dwg No: RR2-EX004 | Rev: - |
| 7. | Existing Loft Plan | Date: 22-05-2024 | Dwg No: RR2-EX005 | Rev: - |
| 8. | Existing Roof Plan | Date: 22-05-2024 | Dwg No: RR2-EX006 | Rev: - |
| 9. | Existing Section A-A | Date: 15-03-2024 | Dwg No: RR2-EX201 | Rev: - |
| 10. | Existing Section B-B | Date: 22-05-2024 | Dwg No: RR2-EX202 | Rev: - |
| 11. | Existing Front Elevation | Date: 22-05-2024 | Dwg No: RR2-EX501 | Rev: - |
| 12. | Existing Right Elevation | Date: 22-05-2024 | Dwg No: RR2-EX502 | Rev: - |
| 13. | Existing Rear Elevation | Date: 22-05-2024 | Dwg No: RR2-EX503 | Rev: - |
| 14. | Existing Left Elevation | Date: 22-05-2024 | Dwg No: RR2-EX504 | Rev: - |
| 15. | Proposed Site Plan | Date: 22-05-2024 | Dwg No: RR2-P001 | Rev: - |
| 16. | Proposed Ground Floor & Site Plan | Date: 22-05-2024 | Dwg No: RR2-P002 | Rev: - |
| 17. | Proposed First Floor Plan | Date: 22-05-2024 | Dwg No: RR2-P003 | Rev: - |
| 18. | Proposed Second Floor Plan | Date: 22-05-2024 | Dwg No: RR2-P004 | Rev: - |
| 19. | Proposed Loft Plan | Date: 22-05-2024 | Dwg No: RR2-P005 | Rev: - |
| 20. | Proposed Roof Plan | Date: 22-05-2024 | Dwg No: RR2-P006 | Rev: - |
| 21. | Proposed Section A-A | Date: 22-05-2024 | Dwg No: RR2-P201 | Rev: - |
| 22. | Proposed Section B-B | Date: 22-05-2024 | Dwg No: RR2-P202 | Rev: - |
| 23. | Proposed Front Elevation | Date: 22-05-2024 | Dwg No: RR2-P501 | Rev: - |
| 24. | Proposed Right Elevation | Date: 22-05-2024 | Dwg No: RR2-EX502 | Rev: - |
| 25. | Proposed Rear Elevation | Date: 22-05-2024 | Dwg No: RR2-P503 | Rev: - |
| 26. | Proposed Left Elevation | Date: 22-05-2024 | Dwg No: RR2-P504 | Rev: - |
| 27. | Accommodation Schedule | Date: 22-05-2024 | Dwg No: RR2-AC01 | Rev: - |

## 1.0 Scope of Survey

1.1 The survey is concerned with the arboricultural aspects of the site only.

1.2 This report is only meant to identify the trees requested for inspection within the confines of the site, or those of dangerous condition within falling distance of the site if in third party ownership and comment on their health, condition and management.

1.3 The planning status of the trees was not investigated in extensive detail, but the property is believed to be located within a Conservation Area, though the trees are not subject to a TPO. It is recommended that an enquiry would need to be made to the local Council as the Local Planning Authority [LPA] to confirm the tree(s) is (are) subject of a specific Tree Preservation Order before undertaking the recommendations, if uncertainty remains.

1.4 A qualified and trained Horticulturalist and Arboriculturist undertook the site visit and prepared the report. The contents of this report are based on this. Whilst

reference may be made to built structures or soils, these are only opinions and confirmation should be obtained from a qualified expert in this specific fields as required.

1.5 Where reference to trees in third party properties, these trees were surveyed from within the subject property, therefore a detailed assessment not possible and some (if not all) measurements were estimated.

1.6 Discussions took place between the Surveyor and the Client at the time of inspection, latterly with the Architect.

1.7 The trees were inspected on the basis of the Visual Tree Assessment method expounded by Mattheck and Breleor (The body language of tree, DoE booklet Research for Amenity Trees No. 4, 1994).

1.8 The survey was undertaken in accord with British Standard 5837: 2012 Trees in relation to design, demolition and construction – recommendations (where applicable or required).

1.9 Pruning works will be required to be in accord with British Standard 3998:2010 (Tree work – Recommendations).

1.10 The client's attention is drawn to the National House Building Council Standards, 2007, chapter 4.2: Building near trees (NHBC) when considering tree replacement species or foundation design details.

1.11 The client's attention is drawn to the responsibilities under the Wildlife and Countryside Act (1981).

## 2.0 Survey Method

2.1 The survey was conducted from ground level with the aid of binoculars, where required.

2.2 No tissue samples were taken nor was any internal investigation of the subject trees undertaken.

2.3 No soil samples were taken.

2.4 The height of each subject tree was estimated or calculated by use of a clinometer.

2.5 The stem diameters were measured in line with the requirements set out in BS5837:2012 - Trees in relation to design, demolition and construction recommendations.

2.6 The crown spreads were measured with an electronic distometer or retractable tape measure. Where the crown radius was notably different in any direction this has been noted on the Tree Survey Plan (appendix A), or in the tree schedule (appendix B, if applicable).

2.7 The Root Protection Area [RPA] for each tree is included in the tree table, both as a radius of a circle, and as an area. The Theoretical Radial Root Protection Area is illustrated in **Pink** or (Dashed Green) & The Site Specific Assessed Theoretical Root Protection Area is illustrated in **Orange** in appendix A (*Where Applicable*).

2.8 All of the trees that were inspected during the site visit were detailed on the plan at Appendix A. Please note that the attached plan is for indicative purposes only, and that the trees are plotted at approximate positions based on the plan provided by the surveyor. The trees on this plan are categorised and shown in the following format: COLOUR CODING AND RATING OF TREES:
Category A – Trees of high quality with an estimated life expectancy of at least 40yrs. Colour = light green trunk outline on plan.

Category B – Trees of moderate quality with an estimated life expectancy of at least 20yrs. Colour = mid blue trunk outline on plan.

Category C – Trees of low quality with an estimated life expectancy of at least 10yrs. Colour = uncoloured/grey trunk outline on plan

Category U – Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10years. Colour = red trunk outline on plan.

The crowns of those trees that are proposed for removal, or trees where the crown spread is deemed insignificant in relation to the proposed development are not always shown on the appended plan; however, their stem locations may be marked for reference.

All references to tree rating are made in accordance with British Standard 5837:2012 Tree in relation to design, demolition and construction.

2.9 TREE PRUNING / REMOVAL: A list of all tree works that are required is included in the tree schedule at Appendix B. Pruning/removal has only been specified for the following reasons:

- Where the works are required to reduce or limit the future risk posed by the tree(s).
- Where works are required for safety reasons.
- Where work is needed to mitigate a legal responsibility or duty.
- Where work is required to improve tree form, or improve the longer-term health and management of the tree in its current surroundings.
- Where works are considered appropriate to reduce or mitigate the impact of the tree(s) may or may be likely to have on property.
- Where the trees are not required by the client and they are not considered worthy of the imposition of a Tree Preservation Order.

Where any tree work is needed, this work will be in accordance with British Standard 3998: 2010 (Tree Work – Recommendations).

## 3.0 Arboricultural Impact Assessment/Appraisal & Protection Strategy

3.1 The subject property is located on the northern side of Rosemont Road in the Royal Borough of Richmond upon Thames, West London. The primary trees of interest are located in within the rear garden of the site and the neighbouring property. The property is located within a Conservation Area but none of the tree are believed to be subject to a tree preservation order. The client's rear garden is split into two distinct areas; the area nearest the house which is a large elevated terrace which has been present for many years and the remainder of the garden which is set at a much lower level, where the trees are located. The terrace is supported by large heavy concrete block work nearer to T2, with the raised brickwork walls forming the planters stepping up to the raised terrace. The raised terrace is to be retained, unaltered at its current level with part of the terrace being utilised for the new enlarged rear extension.

3.2 **Tree Condition Assessment**:
Having inspected the trees: The Golden False Acacia (T1) [here after referred to as False Acacia] is a moderate sized well-established mature specimen of some broader amenity to the area; The Cappodacium Maple (T2) [here after referred to as Maple] is a mature specimen in poorer health with some dieback of large stub limbs growing in the neighbour's garden and the crowns of the both trees are high and are completely unaffected by the proposed scheme. Both trees (T1&T2) have been assessed to be BS:5837 category C trees. The Maple (T2) has recently had a heavy crown reduction which appears to have been carried out to reduce the size of the tree, but also to deal with substantial deadwood and dieback on old pruning wounds within the crown. Tree (T2) is the smaller of the two specimens and is of much less significance to the broader area. Both trees are to be retained and protected during the proposed development works.

- The False Acacia (T1) is located near to the raised brick work planters that form part of the edge of the raised terrace area. There is some fine dieback of branches within the crown, but other than some crown lifting, the tree has had limited surgery management in the past. The tree is growing at a notably lower level (1.1m below) than the terrace where the enlarged extension is proposed. The lower-level garden area where the tree is growing is relatively flat and level, though the ground slowly drops away towards the rear of the garden where there is a reasonable sized pond area. The specimen is mature and it is acknowledged that a very small part of the theoretical radial RPA of the tree may be located within the area where the enlarged extension is to be constructed. The crown of the tree is suitably high and will be unaffected by the proposed extension. There are some defects/wounds evident on some large surface roots which are subject to some dysfunctional timber and decay, which may be from abrasion of the roots from past landscaping and movement of people within the garden. The tree has a good dominant vertical trunk supporting a crown network formed at a high level and the distance to the new structure would have a similar relationship.

- No significant pruning of the tree is required for the proposed development works assessed as part of this report. The damaged surface roots are proposed to be protected as part of this assessment, but it is advised they should be monitored regularly in the future regardless of the development. However, the tree is of moderate amenity and will be protected throughout the development process.

- The Maple (T2) growing in the garden of the neighbouring property and is located nearer to the heavy-duty concrete block retaining wall that forms part of the edge of the raised terrace area. There are some large stubs that are dead which have died back from historic pruning. However, these limbs and stubs are still present even though the tree has had significant crown reduction surgery very recently. The tree is growing at a notably lower level (1.1m below) than the terrace where the enlarged extension is proposed. The inspection of T2 was limited by its location within the adjoining properties and the position of the neighbour's boundary fence. The lower-level neighbouring garden area where the tree is growing is relatively flat and level, though there appears to have been changes of level where a pond has been installed and an extensive terrace area. The specimen is mature, moving towards being over mature and its reaction growth will determine how the tree's age class will be determined in the future. It is acknowledged that a very small part of the theoretical radial RPA of the tree may be located within the area where the enlarged extension is to be constructed. The crown of the tree is suitably high and will be unaffected by the proposed extension. There are some defects/wounds evident on some of the scaffold limbs which are subject to some dysfunctional bark tissue and decay of some fairly large dead stub limbs. The tree has a number of scaffold trunks formed fairly low on the main trunk and though there is limited crown network present at the time of inspection due to the heavy crown reduction surgery recently carried out, though the distance to the new structure would have a similar relationship.

- No significant pruning of the tree is required to for the proposed development works assessed as part of this report. The tree is located behind the boundary fence and is to be protected as part of this assessment, but it is advised the dead stub limbs should be monitored regularly in the future regardless of the development. Though the tree is of limited amenity it will be protected for the development process.

The relevant details of the tree inspected have been included within the appended schedule.

3.3 At the point of inspection, the trees had no obvious fungal fruiting bodies visible from the ground inspection, which would normally help to identify trees of imminent hazard, which are factors that identify specific limits to a tree's appropriate retention in high foot fall areas or small contained garden situations.

3.4 Both trees (T1&T2) have decay pockets or dead/disfunction surface roots and scaffold stub limbs which are, or can become, biomechanical weak points, these need to be monitored, just as a matter of good practice.

Regular inspections of the retained tree(s) by a suitably trained or experienced arboriculturalist should be carried out. Subsequent remedial works will ensure that trees are maintained in a suitable manner to exist in harmony with the new structures and its occupants for many years to come.

3.5 **The Proposal**:

The main emphasis of this assessment has been to consider the potential impact of the proposal and provide recommendations for safeguards to protect the trees during the installation, to reduce the conflict and likely negative impact of the installation of the development proposal. The proposed works are to extend the rear of the house and on the raised terrace area and make internal changes to the house. This is to create a new kitchen diner area while improving the internal configuration of the house partially within the root zone of the established trees in the rear garden and also in the neighbouring rear garden. Plans reviewed by WCEL indicated the footprint area and discussions have been had between WCEL and the architect to determine the low impact construction solutions and safeguards for construction. The architect has confirmed that possible alterations could be made to the foundations if significant structural roots or arterial feeding roots are identified during the precautionary arboriculturally supervised dig to avoid conflict with tree established tree roots.

The new enlarged extension will be located on the elevated terrace area with the old smaller rear extension being demolished and replaced. The demolition of the old extension is well outside the RPAs of the trees being retained even so the existing structures will be dismantled by hand and must be carefully broken up and removed to the front of the site using the either the existing side way access or through the house, subject to the stage of the internal demolition works.

All new pathways, decking and soft landscaping areas within the Root Protection Areas (RPAs) of the retained trees have been designed using no-dig, up and over construction and constructed over the existing surface and in close co-ordination with the retained arboriculturalist using porous materials (where appropriate or practical as to be indicated in the final landscape detailing). Where hard surfaces or foundations are to be emplaced or removed within the RPAs; site specific method statement(s) should be produced with direct input from the retained arboriculturalist and appropriately monitored with onsite supervision of the arboriculturalist for tree/tree root sensitive stages, where required or conditioned.

3.6 **Site Levels:**

The cross-sections show the location and position of the structure which is in the much higher area of the terrace. There is a slow rise of the soil from the rear of the site rising up towards the house, but there is 1.1m height difference between the ground level where the trees are growing and that of the raised terrace. The existing retaining wall structures and their bases already act as a partial barrier to root activity into the soil profile within the terrace, but due to the sheer depth and paved nature of the raised terrace, we consider that root activity will not penetrate as far under the raised terrace area, compared to open ground which the theoretical radial RPAs are based. Care must be taken when working on the existing terrace to make sure it is not over-compacted so as not to cause a reduction in the potential evapotranspiration and gaseous exchange potential of the RPZ.

If, when excavation starts for the foundations of the extension, it uncovers notable large roots, this must be reported back to WCEL and the architect to determine if the proposed foundation design is still potentially achievable, though adjustments are possible. These prescribed working practices outlined work in favour of the scheme which shows the existing level will be relatively unchanged. No other significant level changes should occur within the root protection zone of any of the retained tree(s), unless otherwise discussed with WCEL and subsequently approved the LPA as assessed as part of this report.

3.7 **Precautionary Working Practices for Foundation Solution**:

As, based on the theoretical radial RPAs, there is a very small percentage incursion into the RPA, not taking account of the significant changes of levels between the garden and the terrace, additional protective measures have been, detailed to protect the potential root systems of the trees.

The precautionary dig solution being recommended is considered to be the most obvious way forward for the foundations of this style of building within the RPAs of the nearby trees being retained. WCEL have had significant success on similar projects and consider this would be acceptable here as well, subject to the careful sensitive final installation.

The precautionary arboriculturally supervised foundation dig area and ground protection is to ensure there is no significant root severance during the preparation of the foundation, as well as limiting compaction to the ground during construction, prior to the main above ground structure being installed. After the base/slab has been installed this can then become the operational platform to work from.

It is essential that in the location shown on the proposed site plan care is taken in this position to avoid conflict or damage to structural or major arterial feeding roots if they are found to be present , which is considered unlikely, but important to put safeguards in position to check. Therefore, the foundation location shown closest to the trees in the RPAs must be inspected prior to and during the foundation excavation.

The foundation excavation will be carried out excavating by hand in 150mm layers working along the line of the foundation to be inspected for any significant or large roots. This removal of soil in layers by hand will be carried out to a depth of 1.2m at which point if deeper foundations are required into the subsoil, they can be carried out by using a small excavator with non-toothed bucket, still removing soil in 150mm layers. Where roots are discovered that are greater than 50mm in diameter these will be carefully unearthed and cleaned. This will be to enable WCEL as retained arboricultural consultant to be able to clean cut and cover the exposed end of the root with 1000guage DPM membrane to protect against chemical burners from the foundations concrete pour. Pouring of concrete will occur later once the foundation trenches have been excavated.

Foundations trench excavation will be carried out excavating by hand in 150mm layers working along the line of the foundation trench location to inspect for any significant or large roots. This removal of soil must, and will, be in layers by hand and will be carried out up to a maximum depth of 1.6m. Where roots are discovered that are less than 15mm in diameter these will be cut, but where roots are greater than 15mm up to 30mm in diameter these will be carefully unearthed and cleaned and WCEL as retained arboricultural consultant will be contacted to be present to ensure that these roots are wrapped in moistened hessian, these roots will then be protected by covering with foam pipe insulation or by wrapping over the hessian with a layer of 1000guage DPM. Where roots of 30mm or greater in diameter are uncovered these will be protected and worked around.

After 1.6m in depth (where required) at which point if deeper foundations are required into the subsoil, they will can be carried out by using a small excavator with non-toothed bucket, still removing soil in 150mm layers. Where roots are discovered that are greater than 50mm in diameter these will be carefully unearthed and cleaned. This will be to enable WCEL, as retained arboricultural consultant to be able to clean cut and cover the exposed end of the root with 1000guage DPM membrane to protect against chemical burners from the foundations concrete pour. Pouring of concrete will occur later once the foundation trenches have been excavated. It is recognised that the depth that foundations are excavated into the ground may need to be altered if tree roots are found present that are not allowed to be cut. If roots are found that must not be cut, excavation works will be paused and WCEL will liaise with the architect and structural engineer, to establish an alternative foundation design solution. This will be to enable WCEL, as retained arboricultural consultant to be able to monitor, inspect and record the work as it is carried out and prepare a site note to record the compliance of with this recommended way of works.

Where this type of approach is implemented as recommended and carried out sensitively this will reduce the impact of the proposal and alleviate some of the minor negative conflict, thus protecting the tree's roots and growing environment in the longer term.

3.8 **Crown to Building Relationship:**

The existing height of the crown of the False Acacia (T1) and Maple (T2) is such that the proposed structure would not require any additional pruning of the trees to achieve the proposal beyond that already required on site.

There is some deadwood and dieback of large stub trunks that should be removed regardless of the proposed extension construction. No Pruning of the upper crowns of the trees is required to facilitate the construction of the building due to the sufficient distances involved.

3.9 **Retention of Site Porosity and Moisture Distribution Precautions:**

There are often a number of elements of concern on such a site regarding the affect that the loss of captured precipitation from the new extension structure would have. Given the existing extensive paving, distances from the trees and significantly raised nature of the terrace we consider this to be negligible. With existing terrace surface water run-off remaining the same, dissipated onto the existing garden area. We consider this will have limited impact so there will be very little loss of porosity and gaseous exchange near to the trees, especially given the generally built over nature of the area at present.

We note that in line with our recommendations the rainfall from the roof is redirected down to the soil where possible below using perforated drainage pipe. The down pipes will be managed as part of the vertical fenestration/articulation of the building design, though the exact layout of the pipework has not been seen. In addition, any pipe work or drainage within the retained trees RPAs must not be buried and should lay on, or just within, the top loose layer of the top soil surface.

If carried out correctly this means that the moisture and rainfall from the roof would not be more than a couple of metres from where it would have fallen from current structures and therefore, we consider the impact of the new structure would be greatly minimised.

3.10 **Proximity of New Building and Paving:**

The proposed enlarged extension is sited over the footprint of the existing smaller extension and the fully paved raised terrace which only a very small percentage is within the RPA of the False Acacia (T1) and Maple (T2). Some safeguards will be required to protect the trees for construction works in, or near to, the RPA by use of tree protection and ground protection boards. The existing terrace will remain as existing and this again helps to limit the impact to the trees, utilising the same principles of careful site working and ground protection while minimising disturbance. The existing paving slabs and small existing extension etc must be carefully removed avoiding any significant unnecessary excavations. Ground protection boards must be put in position to protect open soil areas while demolition and construction work are undertaken, especially important if the ground is wet.

3.11 **Services Routes and Drainage Connection:**

The main services routes and drains are located at the flank of the property connecting out to the public highway and this will remain as existing. The Architect has confirmed that the existing drainage and services will remain the same as currently on site and just be connected to, which will be in the area outside the retained trees RPA/RPZs. Therefore, all the drainage and services can be positioned to enter and exit the building and enlarged extension from existing house or from the flank elevation, with water and electric running from the existing building. Should any changes be required for drainage connections, this must be outside the RPA of the tree unless agreed with WCEL in advance. As a design principle all connections will be to the existing services but any new services must be introduced into the building on the furthest side of the building away from the retained protected trees.

The exact specification must be checked with the relevant expert, but the above principles or similar must be followed, if this differs significantly this must be checked with the arboricultural consultant employed by the client or the LPA tree officer. They must not be excavated into the soil profile below the level of any undisturbed soil on site unless approved by the arboricultural consultant or the LPA tree officer, where it is not already shown on the reviewed plans. The proposed services and connection route are to be indicated on the plans.

3.12 **Assessment of Retained Tree's Root Protection Area:**

Section 4.6.3 of BS 5837:2012 states that the Root Protection Area (RPA) of each tree should be assessed by an Arboriculturalist considering the likely morphology and disposition of the roots, when known to be influenced by past or existing site conditions.

Further to WCEL's site visit, it is considered that the RPAs of all the trees will be the general theoretical radial root protection areas though there are few restrictions to the root development of the trees. Given that the terrace is around 1.1m higher than the level of the garden where the trees are growing it is our opinion that root activity under the terrace will be much less active and limited compared to a root system grown in open level ground. Furthermore, the existing retaining wall structures and their bases already act as a partial barrier to root activity into the soil profile within the terrace, but due to the shear depth and paved nature of the raised terrace, we consider that root activity will not penetrate as far under the raised terrace area, compared to open ground which the theoretical radial RPAs are based. Therefore, based on the theoretical radial root protection area the foundations of the enlarged extension would have a very small segmental incursion into the root protection areas, though with the likelihood of root presence being reduced due to the depth of soil load we consider the likely impact to negligible if at all.

Currently, the only significant structure proposed within the theoretical RPA of the trees proposed for retention is the enlarged rear extension which is partially located over the position of the existing smaller extension as well as the existing paving. There will be an incursion into the theoretical RPA of the False Acacia (T1) of approximately less than 1% and Maple (T2) of approximately less than 3.5%. However, we consider growing conditions and root morphology will have adapted so the root activity will not be present in these areas at this distance, but material consideration has been given to act in a cautious way so ground protection measures are detailed as part of the construction working area and with some additional measures for supervision, this should reduce some of the negative effects on the retained trees. Appendix A shows the Theoretical Radial RPAs (in **Pink or Green Dashed**) (where applicable) of the retained tree and the site-specific Theoretical RPA is illustrated in **Orange** (where applicable).

3.13 **Tree Protection Measures**:

Section 4.6.3 of BS 5837: 2012 states that the Root Protection Area (RPA) of each tree should be assessed by an Arboriculturalist considering the likely morphology and disposition of the roots, when known to be influenced by past or existing site conditions and this will influence the tree protection measures.

It can be seen from the plan in Appendix A that some tree protection measures will be implemented for False Acacia (T1) and Maple (T2). The existing smaller extension and paving will need to be dismantled and removed carefully.

In addition, safeguards have been identified in the recommendations for arboriculturally supervised watching brief excavation of the foundations in the area closest to the trees, where it is within the root protection area, to determine the presence or absence of roots, so that should it be necessary the foundation design can be adjusted in consultation with the structural engineer.

Therefore, work in the area shown on the plan must be undertaken with due care and subject to the above ground nature of the studio following the guidance recommended in this report. In arboricultural terms, and subject to recommended tree protection measures, where required, are considered acceptable. As specimen T2 is located behind the garden boundary fence this fencing will act as tree protection fencing for the trunk, thought, tree T2 will still require some ground protection measures and T1 will also require additional protective fencing/hoarding and ground protection to avoid damage to its trunk and roots as well. If implemented with appropriate care, this should not be sufficiently detrimental to buildings construction. This is in addition to some tree root ground protection measures to avoid any damage or compaction of the soil below the existing surfacing. If implemented with appropriate care, this should help avoid significant detrimental impact to the trees.

**Tree Protection Fencing:**
As a standard protocol tree protection fencing (where required) will be erected prior to any commencement of works on site and where any soft stripping or internal works of the building is required in the close proximity of the trees and removed only when all development activity is complete or unless agreed as part of a conditioned Arboricultural Method statement for the landscaping works. The protective fencing will be as that shown in BS5837 (See Appendix C). Therefore, a sign should still be attached to the boundary fence to remind contractors not to venture into the neighbouring garden.

The fence must be marked with a clear sign reading (or similar):

**"TREE PROTECTION FENCING**
**Construction Exclusion Zone – No Access, Do Not Move".**

The Plan Dwg No: WCEL/PEW/TSP1&TPP1/REV1 in Appendix A, identifies recommendations for tree protection fencing locations shown in Yellow.

**Examples of Tree Protection from similar sites:**


DISMANTLING PROTECTIVE BARRIERS: Protective barriers must only be completely removed when all machinery, and equipment has left site. A minimum of seven days' notice should be given to the local planning authority prior to dismantling works begin.

**Tree Root Ground Protection:**
Most of the proposed works will require access close to the RPAs/RPZs of retained tree and areas that would otherwise be protected with Tree Protection Fencing/Barriers. This is especially enlarger rear extension construction work. A large percentage of the works, access for materials and/or preparation working area will be in, or pass over, the RPA of the retained trees False Acacia (T1) and Maple (T2) so some form of significant tree root ground protection will still be required in select discrete areas.

Though the enlarged rear extension is relatively simple, its proximity and the need for some circulation/working space will open the potential for some conflict to occur while demolishing any existing structures, for the insertion foundations and for construction to take place, inevitably some ground protection will be required to protect the RPA/RPZs of the trees. But, should there be any reason to disturb, excavate, remove or alter the location of the structures noted in Appendix A, the retained Arboricultural Consultants (WCEL) or the LPA's arboricultural officer must be contacted prior to any works be planned or implemented.

The Plan Dwg No: WCEL/PEW/TSP1&TPP1/REV1 in Appendix A, identifies recommendations for tree root ground protection locations shown in Light Blue. These protection works are considered acceptable, but if the contractor considers them to be insufficient to protect the ground from compaction from the level and extent of activity or machinery, they are obliged to identify this to the project architect for review with the arboricultural consultant.

The ground protection is recommended from the start of preparation work until completion. On this site the work within or close to the RPZ of the retained tree(s): GP1 ground protection is considered sufficient and the locations requiring ground protection have been proposed on the plan.

Ground Protection GP1 - Ground Protection, temporary, light weight works/storage (Pedestrian Traffic, Light weight dumpers, mini diggers etc). The paved surface and open ground areas shown on the Tree Protection Plan in Appendix A will be over layered with a double layer of 12mm shuttering Ply, exterior grade weatherboard ply or OSB 3 to provide enhanced ground protection. This shall be a double layer laid with staggered joints with minimum overlap of 400mm, screwed or robustly fixed together to provide an even homogenous surface (subject to ongoing inspections by the site manger considers the need on safety grounds) where it is considered that the area may become slippery or a hazard, when wet, the upper surface can be replaced with a suitable anti-slip coated mesh style phenolic resin plywood sheet or similar and/or where it is considered insufficient for its purpose the ground protection will revert to the alternative concrete slab option, see following text.

The **Ground Protection to be spray marked** with a clear sign reading (or similar):

**"RPZ – NO DIG"**

**"Ground Protection- NO DIG"**

**"Construction Exclusion Zone –
No Excavations, No Mixing, No Chemicals"**

| **Examples of Ground Protection:** | |
|---|---|
|  |  |
|  |  |

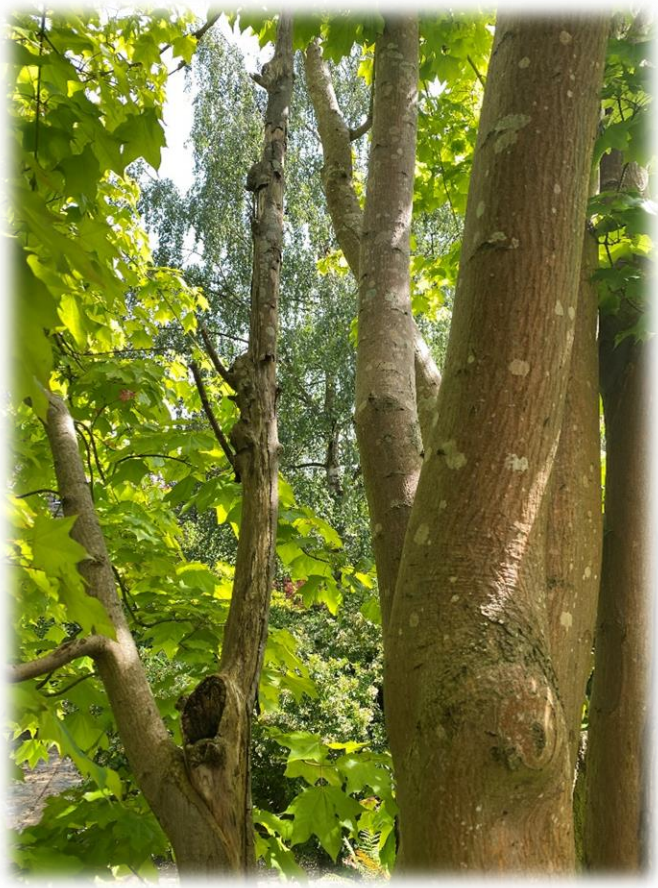
Where protection has been put in place within RPAs of retained trees on or adjoining the site (including retained hard surfaces as ground protection) these will become the Root Protection Zones [RPZs]. This ground protection/tree protection must still be treated as sensitive site zones. There can only be storage of clean lightweight materials, non-corrosive or hazardous liquids must still be kept away from the area(s) this includes corrosive powdered products, such as, cement, lime and plaster. Storage of cement, hydro-lime, plaster or similar powdered products is **not** acceptable.

Mixing of these materials is also unacceptable within the RPAs of retained trees. Caution must also be given to not storing any liquids, powdered products or materials on any surface with a gradient or fall that runs into the RPA of a

retained tree or landscape area, as extreme weather conditions or spillages could result in contamination entering the RPZ. But, should there be any reason to disturb, excavate, remove or alter the ground protection or retained hard surfacing other than that agreed, or to alter the proposed hard landscaped area within the RPAs beyond that approved as part of the planning permission WCEL's arboricultural consultant must be contacted prior to any works being planned or implemented.

3.14 Reference should be made to the tree survey schedule in Appendix B for details of tree(s) on an individual basis.

3.15 Reference should be made to the indicative sketch plan of the tree protection fencing/barrier in accordance with BS5837 in Appendix C.



Maple (T2) Large Deadwood Trunk Stubs with Decay

False Acacia (T1) Mature Surface Root with Upper Surface Damage and Decay

## 4.0 Conclusion:

4.1 This assessment is based on the information provided and may not cover all of the points that could be brought up during the construction process. However, having viewed the plans to date for the proposed scheme, based on the points reviewed and recommendations detailed below, we consider the scheme could be achieved with minimal disturbance to the False Acacia (T1) and Maple (T2), which are to be retained and protected during the development process.

4.2 There are no significant trees to be directly removed as part of the implementation of the scheme.

4.3 The significantly raised nature of the existing terrace area and existing retaining walls and raised planter structures, reduces the potential for negative impact of the new enlarger rear extension. The retention of the existing terrace area also reduces the impact of additional disturbance and retains circulation and relaxation space for the client and their young family.

4.4 The contractor must follow the precautionary investigation techniques and inspection review outlined in section 3.7 of this report for the excavation and installation for the foundations of the structure within the RPZ of the False Acacia (T1) and Maple (T2). If carried out sensitively and with care this will minimise the impact to an acceptable level. Subject to appropriate tree protection, where required, the impact to the trees will be greatly minimised.

4.5 The removal, or breaking up, of existing terrace, as well as, introducing the new enlarged extension are, in part, within a section of the Theoretical Radial RPA of the retained False Acacia (T1) and Maple (T2) but will remain at its existing level, so this will require sensitive working practices. It must be made clear within any contract documents that there will be no additional excavation beyond the proposed enlarger rear extension's foundation within the RPA/RPZ of the retained trees. Subject to appropriate precautionary measures and appropriately specified construction detail (including building materials) be adhered to these works should be acceptable.

4.6 Use of ground protection measures is a reasonable way of maintaining root protection for the retained trees and avoiding compaction, which is particularly important when the ground is moist and becomes more prone to compaction.

4.7 Subject to precautionary measures as detailed above including tree protection fencing as shown on the plan in appendix A, the measures will protect the soil around the tree and the trunk from abrasion.

4.8 Site supervision via arboricultural watching brief excavations for the section of the foundations closest to the trees noted on the plans is recommended. This this should be undertaken by a suitability qualified or experienced person.

## 5.0 Recommendations:

5.1 It is advised where WCEL have recommended key important design features or precautionary protection measures they should be adhered to, but in the circumstances of small short-term project such as this, some minor variations can be used to protect the tree and the roots within the soil if implemented with due care and sensitivity. Variations to the recommended specification or precautionary measures are at the contractors, architect or client's discretion and risk, but must be approved by WCEL or the tree officer prior to implementation.

5.2 Notwithstanding all the relevant sections of this report particular attention is drawn to section 3.7, 3.9 & 3.13, in addition to Appendix A of this report. Specialist tree or landscape officer should periodically inspect the site to see that the scheme has complied with WCEL's recommendations and/or guidance.

5.2 Site Monitoring – An individual e.g. the Site Agent, Architect or WCEL's retained arboricultural consultant, must be nominated to be responsible for all arboricultural matters on site. This person must:

a. Be present on the site throughout the project or at agreed times to ensure tree protection measures are followed (where applicable).
b. Be aware of the arboricultural responsibilities.
c. Have the authority to stop any work that is, or has the potential to cause harm to any tree.
d. Be responsible for ensuring that all site personnel are aware of their responsibilities towards trees on site, and adjacent to the site, and the consequences of the failure to observe those responsibilities.
e. Make immediate contact with the local authority and / or retained Arboriculturalist in the event of any related tree problems occurring whether actual or potential.

5.3 It is recommended, that to ensure a commitment from all parties to the healthy retention of the trees, that details are passed by the architect or agent to any contractors and sub-contractors working on site, so that the practical aspects of the above precautions are included in their method statements, and financial provision made for these.

5.4 WCEL consider protectionary measures can be achieved with the appropriate caution and sensitivity.

Report Date: 28th May 2024 Rev 1: n/a

Mr Philip E Wood *BSc(Hons) LAM*
Principal Consultant & Director
*Wood Consulting Environmental Limited*

# Appendix A

*Tree Survey & Tree Protection Plan (refer to pdf file):*

***58 Rosemont Rd TSP1 TPP1 Plan May 2024***

# Tree Survey & Tree Protection Plan

## Theoretical Radial Root Protection Area Shown in Pink

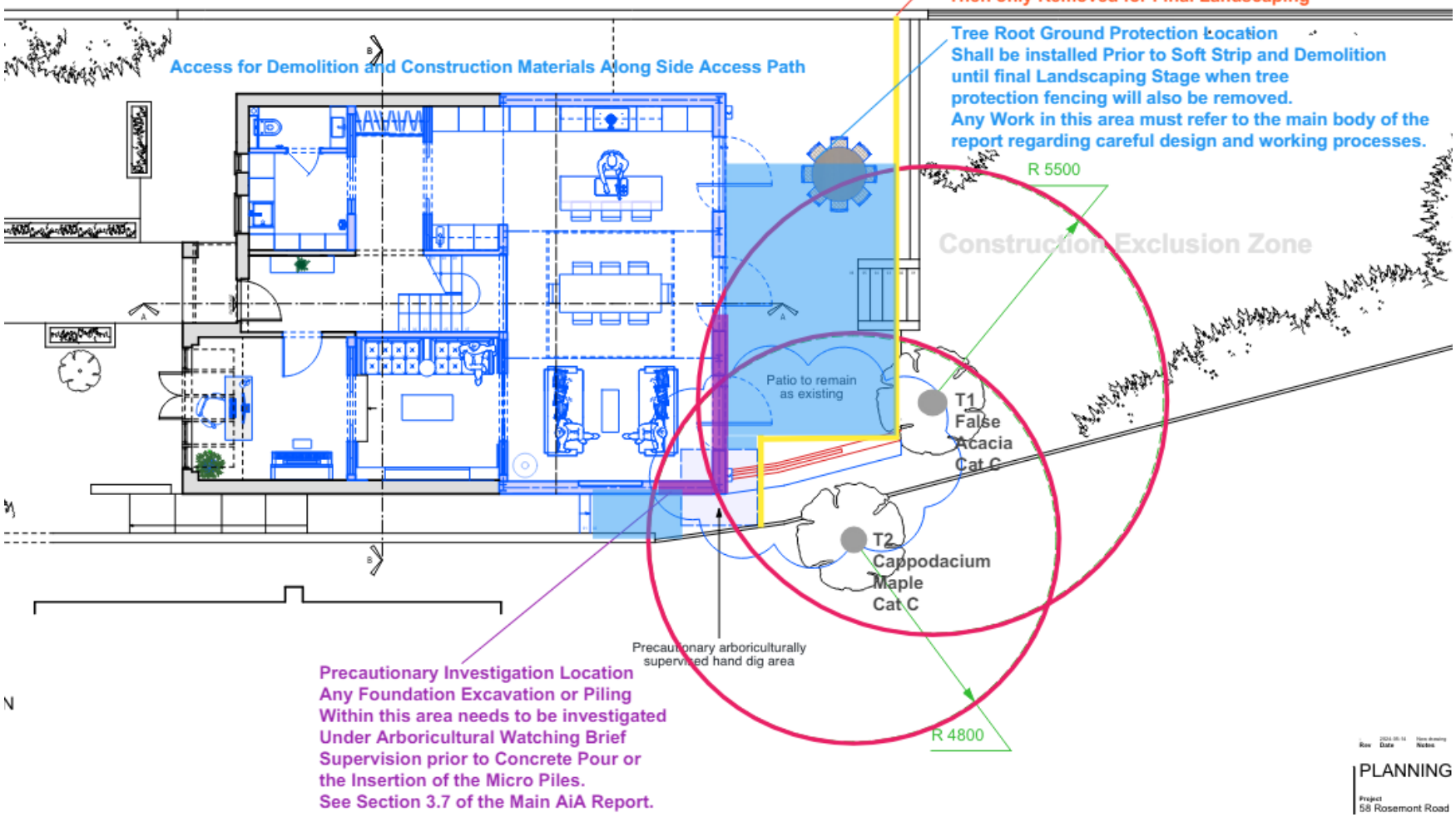
Dwg No: WCEL/PEW/TSP1&TPP1/REV1 Date: 28/05/2024 Annotated by: Philip Woo

Indicative Plan: Do Not Scale Check all Measurements on Site against Schedule in Appendix B in the Main AiA Report

NOTE:

T1 is Golden False Acacia trunk d
of 460mm and theoretical radial rp

T2 is Cappadocian Maple - also Kn
Caucasian Maple estimated trunk
of 420mm and theoretical radial rp




PLANNING

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# Appendix B

# *Tree Schedule*

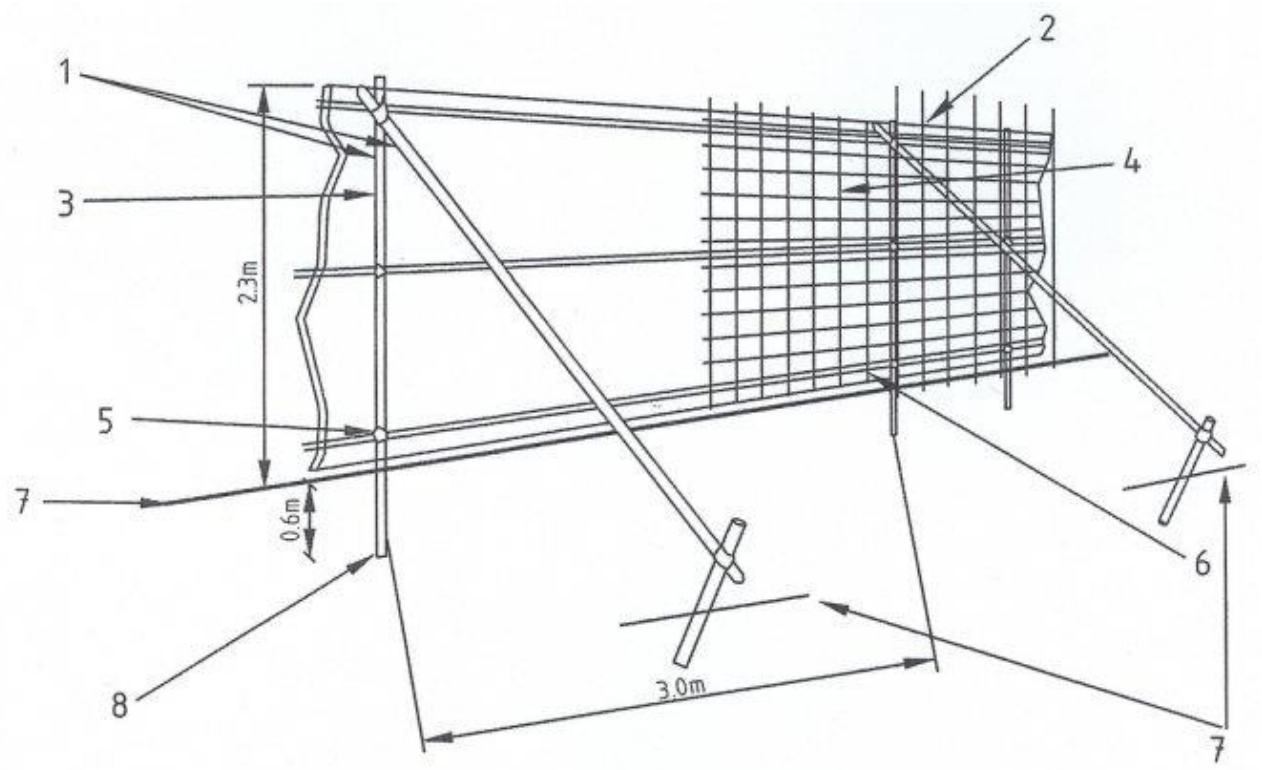
| Tree No. | Tree species | Height (m) | Multi-stem? (Enter MS) | Trunk / stem count dia. (mm) | Radius of RPA if circle | RPA -Root Protection Area sq.m. | Branch spread | | | | Height of first significant branch (m) | Height of Crown Clearance (m) | Age class | Comments / Recommendations | Estimated remaining contribution | Assessed BS 5837: 2012 Value category |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | N | E | S | W | | | | | | |
| T1 | Golden False Acacia | 12 | | 460 | 5.52 | 95.57 | 5.5 | 4.5 | 6. | 4.5 | 6.0 | 4.0 | M | Upper crown slightly sparse with some dieback showing signs of stress, though early in season to fully assess, located near to brick retaining planter wall. Slight exudate on south side of trunk. Damaged mature surface root on N/E side and S/W with some decay from past foot fall. Recommendations: NWR for Development. Roots should be regularly monitored. | 20-40 | C |
| T2 | Cappodocium Maple (NT) | 6.0 | | Est 400 | 4.8 | 72.39 | 3.0 | | | | 3.0 | 2.0 | M-O/M | Tree has substantial dieback and deadwood of main scaffold trunk stubs and branches . Recently heavily crown reduced, multi-stemmed from 1.8m AGL. Assessment of tree restricted due to high boundary fence. Tree growing at much lower level compared to existing raised terrace area. Recommendations: NWR for Development Deadwood and Dieback should be regularly monitored, advise neighbour requires DWS. | 10-20 | C |

***KEY:*** Tree No: Tree number (T= individual tree, G= group of trees, W= woodland); Crown = the leaf bearing part of the tree; Tree Species: Sp.= sub species or cultivar of main species; NT = Neighbours Tree (Tree on adjoining land); GL = Ground Level; AGL = Above Ground Level; DWS = Deadwood and Stubs; Diameter: MS = Multi-stemmed; N/S = Not Surveyed (unable to inspect/restricted visibility or access); Age class: Young (Y), Young Mature (Y/M), Middle Aged (MA) Semi Mature (S/M), Mature (M), Over mature (O/M), Veteran (V); Height (Ht): Measured in metres +/- 1 SULE: Estimated Safe Useful Life Expectancy, Tree can live longer than this value, but can pose a risk to persons or property; Condition: G – Good, M – Moderate, F – Fair, P – Poor, D - Dead

# Appendix C

**BS 5837: 2012**

**Tree Protection Barrier/Fencing**




1 Standard scaffold poles
2 Uprights to be driven into the ground
3 Panels secured to uprights with wire ties and, where necessary, standard scaffold clamps
4 Weldmesh wired to the uprights and horizontals
5 Standard clamps
6 Wire twisted and secured on inside face of fencing to avoid easy dismantling
7 Ground level
8 Approx. 0.6m driven into the ground

**Figure 2. – Protective fencing for RPA**

# End of Report