ARBORICULTURAL REPORT

113 Charville Lane
Hayes
Middlesex

30th July 2023

Prepared by: Andrew Day HND Arb. M.Arbor.A, CEnv

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Scope

The purpose of this report is to provide Arboricultural advice in relation to identifying the constraints of trees on site and in land adjacent to the site boundaries, in relation to the proposal for redevelopment of an existing Children's Home to provide new build residential institution development (use class C2), consisting of 3 No. 2 storey buildings, providing accommodation for 12 young people, with associated staff facilities, plant, access, parking, amenity gardens, soft landscaping and a Multi Uses Games Area.

Providing advice on how the trees could be impacted and protection measures to be implemented for those to be retained using the guidelines and principles of BS5837:2012 to safeguard them from construction pressures.

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1 INTRODUCTION

1.1 Brief:

This report has been prepared at the request of Hunters Architects the project architect on behalf of the property owners, to provide advice on the arboricultural constraints regarding the trees on site and adjacent to the boundaries which could potentially be impacted during works to implement the construction of the proposed layout. Advising on what protection measures will need to safeguard the trees to be retained from construction pressures.

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 topographical survey of the site.

A proposed layout plan of the site.

1.4 Relevant background information:

Some trees are located in third party ownership.

A large area of the site, including within the RPA (Root Protection Area), is covered with hard surfacing and existing buildings.

1.5 Scope of this report:

This report is only concerned with trees located on site and adjacent that could 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: 2012 'trees in relation to design, demolition and construction'. 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 75mm have not been included as per the guidance in BS5837:2012 or species considered to be shrub specimens.

2 APPRAISAL

2.1 Brief site description:

The site consists of a detached building currently used as a children's home. To the front there is a drive that provides access to a large area that is covered in hard surfacing for car parking, with some green space managed as lawn that has some established trees present. To the rear is another area of large open space, consisting of a tarmacked area and close mown grass. Residential properties neighbour the site.

2.2 Condition of the trees:

The trees appear to be generally in a healthy condition with no signs of pests or diseases normally associated with the species. Trees in third party ownership could only be assessed from the confines of the site.

A more detailed analysis of the trees can be found in **Appendix 3**.

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

The trees currently could be considered as suitable for the location, I am not aware of any conflict with the site, its usage, the property, or neighbouring properties.

In general, there are no management works required at present. T10 has an old, occluded wound at the base which appears to have sufficient sound wood surrounding it but to ensure this is the case an internal decay assessment would be required. Heavy ivy is present on some trees which is restricting the inspection level detail, so this would need to be severed, poison, removed to a certain degree and re-inspected. T21 has some decay in the upper stem that appears to be sufficient to support the tree at present, but rather than retain it would be more practical to remove and replant rather than attempting to retain. Management suggestions were considered relevant have been provided in the tree survey in **Appendix 3**.

2.4 Potential effects of development on the trees:

To implement the planning permission being sought, T21 will be removed which is a low-quality tree that has decay in the stem, which is likely going to reduce its safe useful life expectancy. This is a low-quality tree that can be replicated with new planting to better benefit the site, amenity and wildlife.

No other trees will need to be removed or worked on.

The proposed layout means the one of the new blocks will occupy a small part of the outer RPA (Root Protection Area) of T10, where significant roots larger than 25mm in diameter could be impacted. There is a possibility that no significant roots will be present due to existing hard surfaces being previously built in this space. To determine if roots from this tree will present a constraint that need to be worked around, an assessment trench will first be opened along the line of the foundation. This trench will be opened to a depth of at least 600mm, using hand tools / handheld pneumatic tools and under arboricultural supervision. If roots larger than 25mm are present that cannot be pruned clear, then a foundation design that bridges them and accommodates their retention will be used. Foundation designs where roots have been retained and bridged have been used successfully on other projects, and the project engineer will provide a foundation design based on the findings from the assessment trench investigations.

Care will need to be taken when demolishing the building and digging out the existing foundations, to ensure every care is taken depending on the findings of the assessment trench. As mentioned above, when excavating in these locations hand tools / handheld pneumatic tools will be used with an arborist on site to supervise, and if any roots are encountered, they will be retained if possible or pruned clear and suitably covered. If this is not possible, a mechanical digger with a competent operator used, sat outside of the RPA and working carefully backwards out of it. No other deep excavations are present within the RPA of the trees to be retained.

The pedestrian path at the front is shown to cross from the existing car park to the pavement outside, which crosses part of the RPA of T12 and could impact on significant roots. BS5837:2012 allows for a traditional surface to be used where the less than 20% of the total RPA is covered, which in this case is feasible. The shallow subbase will need to be carefully excavated using hand tools, retaining roots where possible and these being covered with a suitable liner to prevent drying out or direct contact with cement etc. If the local authority does not agree to this, then a 'No Dig' surface will be used to construct this surface. The engineer will provide the construction detail for this. The same type of incursion into part of the RPA of T14 will need to be undertaken to extend the parking space from the existing layout. This will require excavation into the soft ground where it could impact on roots. Its possible that roots of this tree have developed at deeper depths where they will not be impacted by doing this in a traditional manner, but some initial investigation will be required to determine this. Like with the path, if a traditional surface is not permitted, then a 'No Dig' surface construction will be used. The project engineer will confirm details on either construction method, but ensure the levels will work because such a system is to be placed on the existing ground level. The local authority are unlikely to be sympathetic if found later this method cannot be achieved. If it is found not feasible to construct a 'No Dig' surface and retain the tree, then its possible T12 & T14 will need to be removed, with a replacement trees provided of a size to offer instant visual impact. This can be conditioned as part of a planning consent. I consider it is feasible the new foot path and car park layout can be installed whilst retaining these trees.

The only other excavation required in a protected area will be when the hard surfacing within the RPA of T22 is to be removed to create the soft garden space for the scheme. Care will need to be taken when removing the existing hard surface, working backwards over the hard surface as it is removed. Hand tools / handheld pneumatic tools will be used with an arborist on site to supervise, and if any roots are encountered, they will be retained if possible or pruned clear and suitably covered. If hand tools are found not to be feasible a digger sat outside the RPA and carefully lift the existing hard surface. Turning this space from hard surface to soft garden space will be more beneficial for this tree's future development compared to the current soil conditions, by providing a greater area that roots can develop to absorb moisture and perform gaseous exchange.

Apart from the potential impacts construction of the proposal could have directly on the trees, other risks of the development works impacting on the tree will be from indirect activities such as careless storage / manoeuvring of plant or materials. Also, if toxins are allowed to leach into the soil once the hard surfacing is removed or allowed to come in direct contact with any roots pruned clear. This can be prevented from following the measures out lined in the tree protection method statement in **Appendix 3**. There is space on site where material storage / manoeuvring and plant parking can be placed outside of the RPA, to prevent the trees being could be confined to so as to reduce the risk of the trees being affected. Protective fencing will be in place prior to construction works commencing, if access across the RPA is required on soft ground, then ground protection will need to be installed to protect the trees during the build, the locations of the tree protection fencing are shown on the tree protection plan in **Appendix 5**. If protective fencing needs to be altered as the project progresses, this will be directed by the supervising arborist. The initial set up of tree protection will be to ensure the trees are not damaged during the demolition process, and continued arboricultural supervision will take place until the project is complete to ensure the trees shown to be retained are protected from construction pressures.

There is space outside of the protected areas to accommodate material storage, mixing and contractor parking etc. As long as the protection measures highlighted within this report are adhered to, then it is possible that the trees shown to be retained will not be detrimentally impacted by the development proposal. However, this will need to be strictly policed by the site manager as it could result in conflict with the council.

In this case the potential impact of the proposal in relation to the trees to be retained is considered moderate, with specific measures being able to be implemented to ensure that construction pressures do not adversely affect their health or longevity. The trees can be sufficiently protected by following the principles and measures contained within this report and those within the method statement in **Appendix 3**.

The scheme provides an excellent opportunity to have new landscaping installed to benefit amenity, diversity and ecological benefit, this can be conditioned as part of a planning consent.

2.5 Potential effects of the trees to be retained on the development:

Leaf litter could become a problem if it causes drains or gutters to become blocked, that could impact in other ways on the building, or if left on access surfaces where they could become a slip hazard. To address this gutter guards could be installed to prevent build-up of leaf litter that could become a problem, or regular cleaning of the gutters employed. Regular clearing of falling leaves on the access route, especially in times of wet weather will address any potential slip hazards caused by this seasonal occurrence.

Shadow cast caused by the trees is unlikely to be a significant issue due to the position of the buildings and orientation of the trees, with shadow cast falling mostly away from them. The conflicts normally encountered with having buildings near to trees can be addressed with scheduled maintenance as has been done so far.

2.6 Proposed solutions to safeguard the trees to remain during construction works:

2.6.1 Protective fencing

Protective fencing will be placed in the locations shown on the tree protection plan in **Appendix 5** prior to works commencing on site. The fencing will be retained at times, will be heras panels as shown in **Diagram 1** and construction activities will not be permitted beyond this. If scaffold is required to be incorporated as part of the fence line, it will be set up as shown in **Diagram 2** within **Appendix 3**.

2.6.2 Services

No details relating to service runs have been provided to me, I would expect the existing services would be able to be utilised to some degree. The project architect will confirm the location of the service runs. Service trenches will be located outside of the RPA of the trees where possible. If this is not possible hand digging / air spade works will be used within the RPA with an arborist on site to supervise proceedings. Alternatively, trenchless techniques to install the services will be used and approved by the local authority. The trees are a notable distance from the proposed location of the dwellings and the RPA, so I do not envisage this being an issue.

2.6.3 Site facilities and material storage

Care will have to be taken to identify the type of materials required and the access of any machinery, vehicles or plant needed to move them, as these can cause collision damage to aerial parts of the trees as well as soil contamination or compaction if on soft ground. The site manager will provide details on this aspect of the project and will demonstrate how care and attention will be applied to protect the trees from direct and indirect construction activities. There is sufficient space outside of the RPA for this.

2.6.4 Works within RPA (Root Protection Area)

Where excavation works to open the assessment trenches, install hard surfacing, or remove hard surfacing, will be undertaken with care using had tool / handheld pneumatic tools. A hand dig method statement is provided in **Appendix 3**. An arborist will supervise the digging and any roots encountered will be retained if possible and if not, pruned clear and covered. The works will commence in a manner where it will start closest to the tree and work backwards out of the RPA. The supervising arborist will direct works in association with the contractor.

A design for the foundation and hard surfaces will be provided, working around the constraints of the trees where possible. If a ' No Dig' surface is to be used, the project engineer will ensure the levels works across the site so that it is not later found that more extensive excavation in the RPA is required which could result in the trees removal.

2.6.5 Site supervision

The site manager will provide a timetable of works on the site, listing all the key stages of development, starting with the placing of protection fencing / hoarding around the trees, establishing site facilities, through to completion of the site. Arboricultural supervision will take place prior to works commencing on site to ensure protection measures are understood and implemented with a pre-commencement meeting with the site manager and other relevant personnel. In this case I do not think that regular visits will be required, therefore I suggest a supervision visit is undertaken at the beginning of the project to ensure the protective fencing is in the correct place and the site manager understands the protection methods to be implemented, then one midway through and one towards the end to ensure they have been maintaining the protection measures outlined within this report. If this is not to the tree officer's satisfaction, then **site supervision will be undertaken by a suitably qualified arborist on a monthly basis until the completion of the project, and at key stages in the development such as erection of the protective fencing.**

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.

A record of all arboricultural related site meetings will be made, signed off and available for inspection by the local authority if required. Any personnel inducted on site will be made aware of the tree protection measures and will be responsible for their own actions in maintaining them and not breaching them in any way. Failure to do so could result in legal action taken against the person responsible and the site owner, including any financial remuneration involved.

2.6.6 Site completion

Once work has been completed, an arborist will inspect the trees and comment on their condition and prescribe any mitigation works required. The tree protection measures are expanded upon in **Appendix 3**. Any proposed landscape works will be discussed with the supervising arborist to ensure the tree protection measures will not be affected.

3 CONCLUSIONS

- To implement this development only T21, a low-quality tree will need to be removed. This tree has no wider public amenity value and can easily be replicated with new planting. No other tree surgery works are required.

- Part of the outer RPA of T10 will be crossed by the building footprint. There is already hard surfacing in this location so it is feasible that no significant roots will be impacted. An assessment trench will be opened along the foundation line as indicated on the tree protection plan, to determine if roots present a constraint. If so, the foundation design will accommodate their retention and protection.

- The RPA of T12 & T14 will be crossed with new hard surfacing, where roots could possibly be impacted. Because it is less than 20% of the total RPA, BS5837:2012 allows provision for a traditional surface to be used. If the council do not allow this, then these surfaces will be completed using a 'No Dig' construction method.

- All excavation works in the RPA will be undertaken using hand tools / handheld pneumatic tools in accordance with the hand dig method statement provided, carefully working back out of the RPA from existing hard surface. An arborist will be present to supervise.

- Protective fencing will be installed to prevent unnecessary access into the protected areas, and adjusted under the direction of the supervising arborist as the project continues. The locations of this fencing are shown on the tree protection plan in **Appendix 5**. The boundary fence will protect the remainder of the trees.

- The trees shown to be retained can be adequately protected from construction pressures by implementing and adhering to the protection measures provided in the method statement in **Appendix 3**. The proposal is unlikely to have any detrimental impact on the trees shown to be retained.

- The scheme presents an excellent opportunity to have new soft landscaping to create a more diverse species mix, to benefit wildlife and amenity. This can be conditioned as part of the planning consent.

4 OTHER CONSIDERATIONS

4.1 Trees subject to statutory controls:

I do not know if the trees are the subject of a TPO (tree preservation order) or other restrictions, the local authority will need to be consulted to confirm this. 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. This is an advisory for readers of this report and not meant as a confirmation as to the protection status of the trees commented on.

Andrew Day HND Arb
For Andrew Day Arboricultural Consultancy Ltd.

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 20 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 Andrew Day Arboricultural Consultancy.

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 an established tree contracting and consulting company in Essex to develop and run the consultancy department as their principal consultant which I did for three years.

SITE PHOTOGRAPHS

Showing T9 & T10 and existing hard surface

Showing T12 – T15 and existing hard surface

Showing T21

Showing T22 and existing hard surface

SITE SPECIFIC INFORMATION

Explanatory Notes

Tree Survey

Tree Protection Method Statement and Protection Criteria

Hand Dig Method Statement

Informatives for protection fencing.

Arboricultural Considerations notice for site hut and inducted personnel.

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 identify a particular tree quickly and accurately without further detailed investigations. Where there is some doubt of the precise species of tree, it is indicated 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 estimating 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 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 measure 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 **M** mature (last one third of life expectancy), **EM** early mature (one third to two thirds life expectancy) and **Y** young (less than one third life expectancy).

FSB: First significant branch from ground level (direction shown on tree protection / constraints plan)

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.

RPR: Radius of root protection area around the tree /group

RPA: Root protection area for tree or group

BS 5837 2012 - 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
U - Trees that cannot realistically be retained; Fell category

Tag	Name	Age	Diameter	Height	Crown Hgt	FSB Hgt	Crown Spread (N S E W) (m)				Life Exp	Recommendations	Category	RPR	RPA
T1	Quercus palustris (Pin Oak)	EM	300	12	3	3	2	2	5	2	20+	No works required in third party ownership.	C2	3.6	40.72
T2	Crataegus monogyna (Hawthorn)	EM	200	8	2	2	2	2	2	1	20+	No works required in third party ownership.	C1	2.4	18.1
T3	Crataegus monogyna (Hawthorn)	EM	200	8	2	2	2	2	2	2	20+	No works required in third party ownership.	C1	2.4	18.1
T4	Crataegus monogyna (Hawthorn)	EM	150	8	2	2	2	4	0	1	20+	No works required in third party ownership.	C2	1.8	10.18
T5	Crataegus monogyna (Hawthorn)	EM	150	8	1	2	1	2	3	1	20+	No works required in third party ownership.	C2	1.8	10.18
T6	Quercus rubra (Red Oak)	EM	300	15	2	2	8	6	5	7	20+	No works required in third party ownership.	C1	3.6	40.72
T7	Ulmus glabra (Wych Elm)	EM	150	12	3	3	0	1	2	2	20+	No works required at present.	C3	1.8	10.18
T8	Acer campestre (Field Maple)	EM	250	12	2	2	2	4	4	3	20+	Heavy ivy establishing in Crown limiting inspection detail, sever and poison and reinspect.	C1	3	28.28
T9	Quercus robur (Common Oak)	M	1200	15	4	4	9	4	8	8	20+	Heavy ivy establishing in Crown, sever and poison before it takes over canopy. Dead wood in canopy over hanging path and parking, remove this to prevent falling prices harming persons or property.	B2	14.4	651.53

Tag	Name	Age	Diameter	Height	Crown Hgt	FSB Hgt	Crown Spread (N S E W) (m)				Life Exp	Recommendations	Category	RPR	RPA
T10	Quercus robur (Common Oak)	M	1200	15	4	8	7	9	8	4	20+	Dead wood in canopy over hanging path and parking, remove this to prevent falling prices harming persons or property. Cavity at base on the southern side, appears to have sufficient sound wood occluding it. An internal decay assessment would be required to determine this.	B2	14.4	651.53
T11	Acer campestre (Field Maple)	EM	200	10	2	2	3	3	2	3	20+	Heavy ivy establishing in Crown limiting inspection detail, sever and poison and reinspect.	C1	2.4	18.1
T12	Quercus robur (Common Oak)	EM	300	12	2	2	2	2	2	2	20+	No works required at present.	C1	3.6	40.72
T13	Acer campestre (Field Maple)	EM	150	12	2	2	2	1	1	3	20+	No works required at present.	C2	1.8	10.18
T14	Acer campestre (Field Maple)	EM	300	12	3	3	4	4	4	4	20+	No works required at present.	B3	3.6	40.72
T15	Quercus robur (Common Oak)	EM	450	15	4	5	6	4	6	7	20+	Heavy ivy establishing in Crown limiting inspection detail, sever and poison and reinspect.	B3	5.4	91.62
T16	Crataegus monogyna (Hawthorn)	EM	250	12	3	3	2	2	3	3	20+	No works required at present.	C2	3	28.28

Tag	Name	Age	Diameter	Height	Crown Hgt	FSB Hgt	Crown Spread (N S E W) (m)				Life Exp	Recommendations	Category	RPR	RPA
T17	Crataegus monogyna (Hawthorn)	EM	150	8	2	2	2	1	2	2	20+	No works required at present.	C2	1.8	10.18
T18	Quercus robur (Common Oak)	EM	400	15	5	5	8	7	5	5	20+	No works required at present.	B3	4.8	72.39
T19	Prunus (Prunus species)	EM	250	8	2	2	4	2	2	3	20+	No works required at present.	C3	3	28.28
T20	Quercus robur (Common Oak)	EM	250	8	2	2	2	0	1	3	20+	No works required at present.	C3	3	28.28
T21	Prunus (Prunus species)	EM	250	8	2	2	2	2	2	3	20+	Decay present in upper stem but appears to have sufficient sound wood to support it. Monitor.	C3	3	28.28
T22	Acer pseudoplatanus (Sycamore)	M	350	12	3	3	3	3	3	3	20+	No works required at present.	B3	4.2	55.42

Method Statement for Tree Protection Measures

PROJECT: 113 Charville Lane, Hayes, Middlesex

CLIENT: Hunters Architects

1.1 Brief

Provide protective measures specification for trees located on site, to be retained and protected using the guidelines and principles prescribed in BS5837: 2012 'trees in relation to design, demolition and construction'.

1.2 Protective Fencing and Site Supervision

An important factor in providing protection for the tree during the construction works is the chronological order in which development tasks are undertaken. Before work continues on site, the following issues will be addressed and submitted to the council for approval.

- A suitably qualified arborist will be retained to oversee tree protection measures where required and liaise with the tree officer as required. The contact information of this arborist will be made available to the council tree officer prior to works starting on site.

- An assessment trench will be opened where ethe outer RPA of T10 is crossed by the building to determine the foundation design, along with any other exploratory works to accommodate hard surfacing design.

- The foundation of the buildings and hard surfaces will be suitable to address any potential influence the trees may have on it. Location of services and details of their installation will have been provided, with any arboricultural protection measures or methodologies of working programmed in the works schedule and approved by the council.

- A pre- commencement meeting with a suitably qualified arborist will take place with the site manager and other relevant site personnel, to debrief them on the importance of the protection measures and to assist in setting up of the protection fencing etc. before work commences on site.

- The arboricultural site supervision schedule will be compiled at the pre-commencement meeting and will be the responsibility of the site manager to ensure that it is carried out and maintained for the duration of the works.

- The removal of T21 will be undertaken before construction activities begin, ensuring works are compliant with BS3998:2010 and any relevant wildlife legislation.

- Excavation / ground disturbance works in the RPA will be undertaken in accordance with the hand dig method statement using hand tools or handheld pneumatic tools, with arboricultural supervision present.

1.2.1

Protective fencing will be as shown in **diagram 1** or similar that is fit for purpose and will be placed in the locations as shown on the tree protection plan in **Appendix 5**, prior to works commencing on site. If scaffolding is required to be erected within the confines of the RPA, it will be set up as shown in **diagram 2**.

The informatives provided will be attached to the fencing to highlight its importance at a height of 1.5m and at 5m intervals along the line of fencing, or in locations that can demonstrate they are clearly visible to identify the purpose of the fencing in relation to the project. Once erected the fencing will not be removed unless works on site have been completed. The informatives provided will be attached to the fencing to highlight its importance at a height of 1.5m and at 5m intervals along the line of fencing, or in locations that can demonstrate they are clearly visible to identify the purpose of the fencing in relation to the project.

1.2.2

If access is required within the RPA over soft ground, then ground protection will be installed as set out in 1.8 before access into the protected area is allowed.

Diagram 1

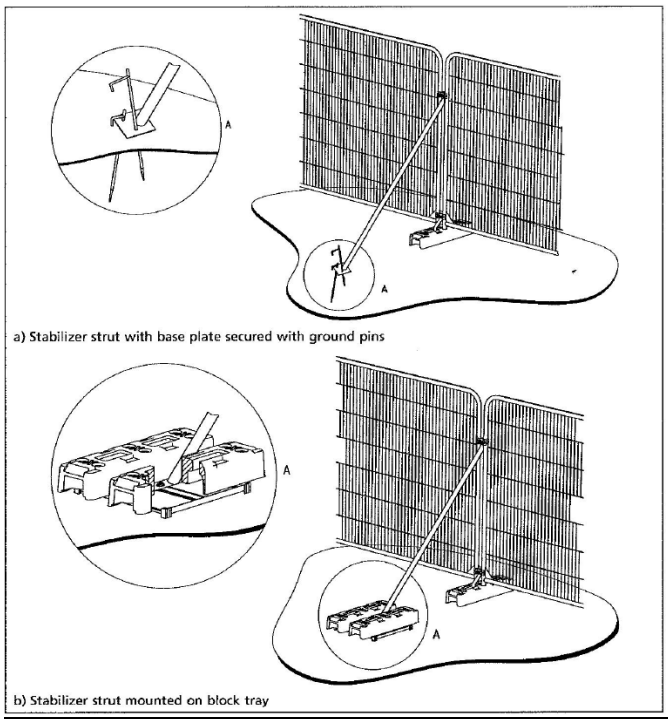
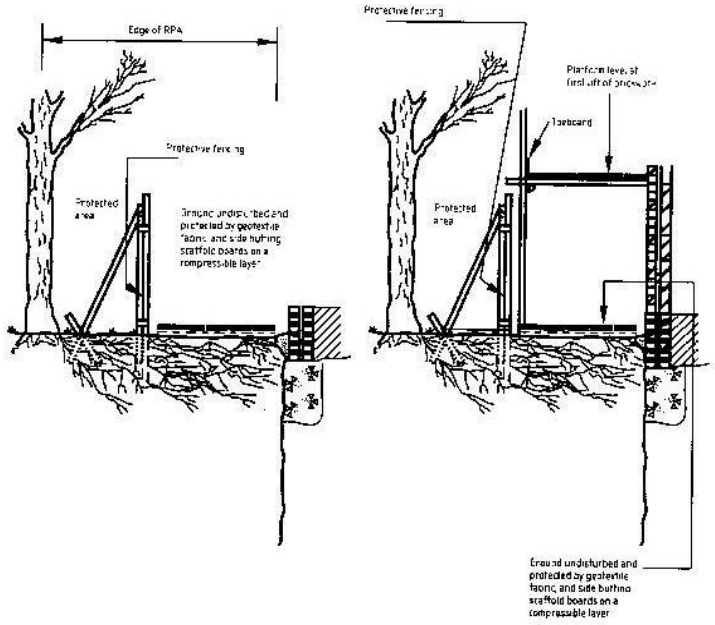


Diagram 2



1.2.3

A pre-commencement inspection by the supervising arborist will take place to ensure the protective measures are understood and a schedule of arboricultural site monitoring is formulated at the start of the project, this will consist of a visit by a suitably qualified arborist once at the start of the project, once mid-way through and once towards the end of the project, as well as times of excavation works to address the paths in the RPA. If this is not to the tree officer's satisfaction, supervision visits will be on a monthly basis, or at times when works where the trees are more likely to be at risk of damage. A log of these visits and any actions required will be kept and made available to the council on request. **It will be the responsibility of the site manager or other named person to ensure this is maintained for the duration of the project.**

1.2.4

The placing of tree protection measures works within the construction timescale will not be altered and it is re-emphasised that this is to take place prior to any other activities.

1.2.5

All personnel inducted on site will be made aware of the tree protection measures and will be responsible for their own actions in maintaining these and ensuring that they do not cause any damage to the trees.

1.3 Forbidden activities within RPA.

1.3.1 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 ground disturbance works, apart from what has been approved by any planning permissions or specifically from the council.

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

1.3.2 No ground disturbance works 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.

The protected area is not to be breached at any time, unless the local authority has granted permission and a qualified arborist has been consulted and supervises any work activities that need to take place.

1.4 Storage of chemicals / mixing of materials

1.4.1 Storage of chemicals will be placed in a sealed bund / 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 trees takes place the local authority is to be notified as soon as possible and a suitably qualified 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.

1.5 Works in the RPA

1.5.1 **No excavation / ground disturbance works are proposed to take place will take place unless the relevant permissions are in place.** The assessment trench will be opened to a depth of at least 600mm in the location identified on the tree protection plan in **Appendix 5**, in accordance with the hand dig method statement provided.

1.5.2 Where other ground disturbance will be required to the hard surfacing in the outer RPA, the hand dig method statement will be adhered to. Hand tools or handheld pneumatic tools will be used, working back out of the RPA on the existing hard surface. This work will be supervised by an arborist.

1.5.3 Any roots will be retained, protected and covered where possible, if this isn't feasible, they will be pruned clear and covered.

1.6 Material storage / site parking

1.6.1 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. The details outlined in 1.4 above will be adhered to.

1.6.2 **At no point will materials be allowed to be stored, mixed or vehicles parked in the RPA. The site manager will strictly police this**.

1.7 Ground Protection

1.7.1 If access across the RPA on soft ground is needed the following ground protection measures will be implemented as required.

For pedestrian traffic:

A single thickness of scaffold boards placed on top of a scaffold frame so as to form a suspended walkway (similar to diagram 2), or boards laid on to a geotextile membrane with a layer of wood chips 100m in thickness.

For pedestrian operated plant, up to 2 tonnes:

Interlinked ground protection boards of plywood or similar at least 2.5cm thick, laid onto a geotextile membrane on a bed of wood chip 150mm in depth.

For wheeled or tracked traffic exceeding 2 tonnes gross weight:

Metal tracking designed and fit for purpose, pre-cast concrete slabs or similar, laid to an engineering specification on a compression resistant layer e.g., wood chips that will likely spread the weight of the load and prevent compression of the soil underneath.

1.7.2 **AT NO POINT WILL THE GROUND WITHIN THE RPA BE LEFT UNPROTECTED IF ACCESS IS REQUIRED IN THIS AREA**.

1.8 Completion

1.8.1 Once all of the construction activities on the site have been completed and a suitably qualified arborist will assess the condition of the tree and liaise with the local authority accordingly if any works are considered necessary. Any proposed landscaping will be discussed with the supervising arborist to ensure it will not impact on the trees.

2 HAND DIG METHOD STATEMENT

PROJECT: 113 Charville Lane, Hayes, Middlesex

2.1 The area to be excavated will be inspected by a professional arborist to assess the likely proximity of root activity and concentration prior to the commencement of any works. All relevant authorized personnel to be informed and required permissions gained before work commences.

2.2 If hand digging is not possible/practicable a method of excavation will be agreed and undertaken by a suitably qualified person for example air spading or a competent digger operator etc., in the presence of a qualified arborist.

2.3 During excavation great care will be taken to minimize damage to retained roots, including the bark around the roots.

2.4 All roots greater than 25mm diameter should be retained and worked around. Where clumps of smaller roots (including fibrous roots) are found these are to be retained.

2.5 Roots with a diameter in excess of 25mm must not be severed without permission from an Arborist.

2.6 If roots are encountered, the Arborist must conduct the root pruning and inform the relevant person to suggest mitigation works to the tree(s) if required. If severance is unavoidable roots must be cut back using a sharp tool, leaving the smallest wound possible.

2.7 If there is a possibility of infection being passed from one specimen to another, tools will be sterilized in an appropriate method to reduce the risk of cross contamination.

2.8 When backfilling an inert granular material mixed with topsoil or sharp sand (not builder's sand) is to be used around the retained roots. Unless an alternative backfill substrate has been agreed with in writing by the appropriate authorized personnel.

2.9 If roots are to be left exposed for a period of longer than 1 hour (dependent on weather conditions), then a covering of dampened Hessian or similar material is to be used to cover the exposed roots. Any changes to this practice are to be authorized by a qualified arborist.

2.10 All levels are to be returned to the original plane after any excavation unless specific design and relevant permission has been authorized.

2.11 A qualified Arborist is to be on site to supervise during any operations within the protection zone.

ANDREW DAY
ARBORICULTURAL CONSULTANCY LTD

REDUCING COSTS BY DELIVERING PRACTICAL SOLUTIONS

TREE PROTECTION ZONE

DO NOT CROSS WITHOUT PERMISSION

BREACHING THIS BARRIER CAN RESULT IN THE FOLLOWING:

- **SHUT DOWN OF THE JOB**
- **FINANCIAL IMPLICATIONS**
- **CRIMINAL PROCEEDINGS**

ARBORICULTURAL SITE CONSIDERATIONS

THIS NOTICE IS TO BE DISPLAYED IN THE SITE OFFICE OR A SUITIBLE LOCATION WHERE IT IS CLEARLY VISIBLE AND ISSUED TO ALL PERSONNEL INDUCTED ONTO SITE

The following site considerations must be observed at all times during the development process, from site preparations through to completion.

- The protected area of the RPA must be regarded as sacrosanct and not breached except where to implement the planning permission granted, without prior consultation with either the local planning authority or the supervising arborist.

- Ground protection must not be lifted or removed without prior consultation with either the local planning authority or the supervising arborist.

- Damage caused to ground protection must be reported to the site manager to ensure suitable repair or actions are taken.

- No materials, chemicals, machinery, or vehicles to be stored within the RPA (root protection area) as defined on the tree protection plan and on site by fencing and ground protection.

- No materials etc. must be rested against or machinery chained to trees.

- No pruning of trees may be undertaken by anyone other than a qualified arborist and approved by the supervising arborist and local authority tree officer.

- Any physical damage caused to a tree to be retained must be reported to the site manager immediately so that suitable remedial works can be commissioned without delay.

- Builder's sand (which contains high levels of salt) must not be used to back fill excavations within or in close proximity to tree roots, as it has a toxic effect and can cause root desiccation. Sharp sand must be used under such circumstances.

- Soil contaminants such as concrete mixings, diesel oil and vehicle washings must be kept suitably contained, preferably within bunded areas. Any spillages within 2m of a fenced area must be reported to the site manager and supervising arborist immediately so that suitable mitigation works can be commissioned.

- Fires must not be lit in positions where their flames can extend to within 5m of foliage, branches, or trunks. Wind direction and size of fires will impact on this.

- Notice boards, telephone cables or other services etc. must not be attached to any part of a tree.

Remember the tree officer can turn up at any time or neighbours may report any poor practice or threats to the trees.

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 1 shows the contact details of the project architect who is to be contacted if any enquires relating to this project need answering.

Table 1

Name	Relation to Site	Contact Details
Hunters Architects	Project Architect	+44 020 8237 8261

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. This report is for the purposes of identifying the constraints of trees in relation to development and not a health and safety assessment of the trees. A cursory assessment of the trees health and condition will be recorded, but this is not to be taken as a detailed assessment of its structural condition, health, and management recommendations in relation to this. A separate tree inspection regime focusing on these aspects will need to be undertaken if this is required.

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 extreme weather changes occur such as heavy winds, snow etc., the trees will need to be re-inspected to ensure their condition has not been affected or has altered from the initial inspection details obtained.

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

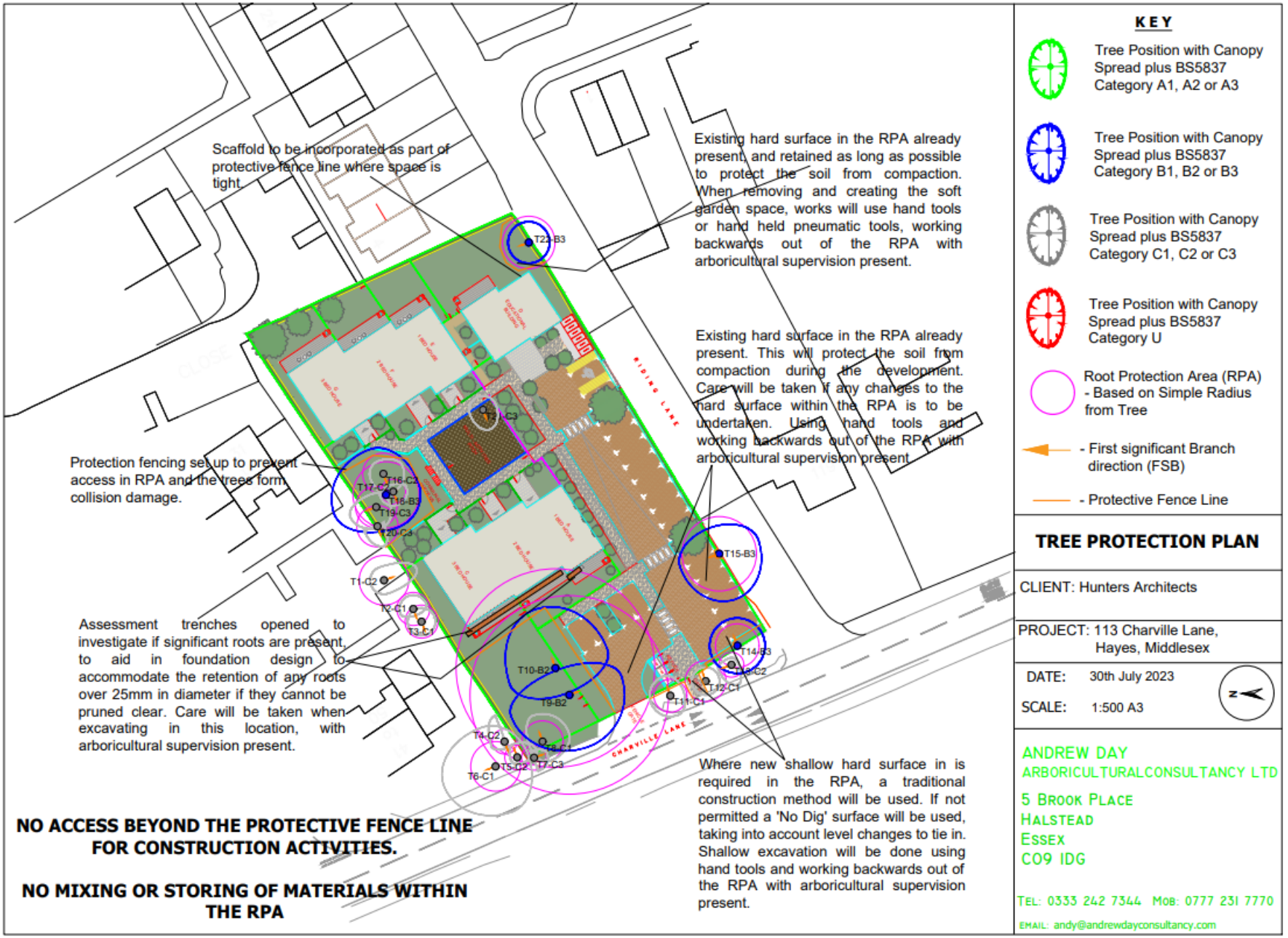
It will be appreciated, and deemed to be accepted by the client that the formulation of the recommendations for the management of the trees will be guided by the following:

1. The need to avoid reasonably 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 PROTECTION PLAN

(This plan is for reference only; please refer to the separate A3 plan for scaling if required)


Scaffold to be incorporated as part of protective fence line where space is tight.
Existing hard surface in the RPA already present, and retained as long as possible to protect the soil from compaction. When removing and creating the soft garden space, works will use hand tools or hand held pneumatic tools, working backwards out of the RPA with arboricultural supervision present.
Existing hard surface in the RPA already present. This will protect the soil from compaction during the development. Care will be taken if any changes to the hard surface within the RPA is to be undertaken. Using hand tools and working backwards out of the RPA with arboricultural supervision present.
Protection fencing set up to prevent access in RPA and the trees form collision damage.
Assessment trenches opened to investigate if significant roots are present, to aid in foundation design to accommodate the retention of any roots over 25mm in diameter if they cannot be pruned clear. Care will be taken when excavating in this location, with arboricultural supervision present.
Where new shallow hard surface in is required in the RPA, a traditional construction method will be used. If not permitted a 'No Dig' surface will be used, taking into account level changes to tie in. Shallow excavation will be done using hand tools and working backwards out of the RPA with arboricultural supervision present.
NO ACCESS BEYOND THE PROTECTIVE FENCE LINE FOR CONSTRUCTION ACTIVITIES.
NO MIXING OR STORING OF MATERIALS WITHIN THE RPA
KEY
Tree Position with Canopy Spread plus BS5837 Category A1, A2 or A3
Tree Position with Canopy Spread plus BS5837 Category B1, B2 or B3
Tree Position with Canopy Spread plus BS5837 Category C1, C2 or C3
Tree Position with Canopy Spread plus BS5837 Category U
Root Protection Area (RPA) - Based on Simple Radius from Tree
- First significant Branch direction (FSB)
- Protective Fence Line
TREE PROTECTION PLAN
CLIENT: Hunters Architects
PROJECT: 113 Charville Lane, Hayes, Middlesex
DATE: 30th July 2023
SCALE: 1:500 A3
ANDREW DAY
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