

DUCKWORTHS

ARBORICULTURE

BS:5837 (2012) ARBORICULTURAL REPORT

NORTHCOURT LODGE
65 NORTHCOURT AVENUE
READING
BERKSHIRE
RG2 7HF

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Ref: SCD 05500 / 2021

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2. INTRODUCTION

2.1 INSTRUCTION

- 2.1.1 This Arboricultural report which provides an Arboricultural Survey, an Impact Assessment and Method Statement to protect the trees growing on and adjacent to Northcourt Lodge Nursing Home, 65 Northcourt Avenue has been prepared by Sarah Duckworth, Arboricultural Consultant.
- 2.1.2 An application to construct a 17-bedroom building within the grounds of 65 Northcourt Avenue in order to extend the care facilities of the nursing home was submitted to Reading Borough Council on 13th August 2020 and registered under application ref: 201141.
- 2.1.3 In response to the application, Reading's Natural Environment Officer has given the following comments:

Natural Environment Trees comments:

The site at 65 Northcourt Avenue is not part of any TPO and it is not part of a conservation area. However, my current stance on the matter is to object to the application.

1. The presence on the site of a fairly large broadleaved tree (crown diameter approx. 12 metres) is not mentioned anywhere in the application. Comparing the Design and Access Statement document against the satellite view of Google Maps (2020 imagery data) results in the conclusion that this tree will have to be felled to accommodate the proposed building. There is no tree condition survey of the whole development site which should include the accurate plotting (trunk position, canopy spread and Root Protection Area) of the trees on site and the street trees, as should have been provided.

2. Northcourt Avenue is a tree lined road, and I would expect any development of the size proposed to incorporate landscaping to soften the extensive building and provide screening. No landscape masterplan demonstrating how an adequate level of landscaping can be incorporated into the development.

3. The lack of an Arboricultural Impact Assessment to demonstrate acceptability of any works required within the Root Protection Area of any retained trees (on and off site).

4. Quoting from the Application Form "Are there trees or hedges on the proposed site? Answer No" - I note the lack of taking into consideration important landscape features (e.g., Point (1) above) when clearly there are trees present.

I advise a thorough re-examination of the landscaping implications of such an ample project and adoption of equally sound plans for a net improvement of tree numbers or tree cover, with strong regards for the social, environmental and health benefits this brings. A tree condition survey and Arb Impact Assessment are required along with landscape principles. Without these, the development fails to demonstrate that it is acceptable in tree or landscape terms.

Reason: In order to ensure that appropriate protection is given to trees of amenity value within and adjacent to the site in accordance with Policy EN14 of the Reading Borough Local Plan 2019.

- 2.1.4 I have been instructed to survey the trees growing on or adjacent to 65 Northcourt Avenue in accordance with BS:5837 2012 in order that the constraints posed by the trees to the construction of a 17-bedroom building within the property curtilage can be ascertained.
- 2.1.5 Following this survey, it was identified that the trees within the site are all generally low-grade trees and small specimens, the removal of which can be readily mitigated with additional new planting on site.
- 2.1.6 However, it was considered that the proposed new access from Northcourt Avenue and associated changes of levels would cause unacceptable harm to T1 and T4 (Lime), two mature highway trees. I have worked with the architect to amend the access to ensure the prominent highway trees are not impacted by development where they may be rooting within the curtilage of 65 Northcourt Avenue.
- 2.1.7 The Arboricultural Impact Assessment in this report uses the tree data to identify any short or longer-term impact the proposed new building and revised access might have on the surrounding trees and makes recommendations for amendments or mitigation where appropriate.
- 2.1.8 This report also includes a site-specific Arboricultural Method Statement and Tree Protection Plan which details the steps which will be taken in order to ensure significant trees can be successfully protected and retained during and on completion of the proposed building works.

2.2 SCOPE

- 2.2.1 The British Standard 5837:2012 'Trees in Relation to Design, Demolition and Construction' is designed to assist those concerned with trees in relation to construction to form balanced judgments. This report does not therefore seek to put arguments for or against development but provides a means of protecting the trees which may be affected during development.
- 2.2.2 The Tree Protection Plan which accompanies this report is illustrative and should only be used for dealing with tree issues only. The precise location of all tree protective measurements should be confirmed with a pre-commencement site meeting before any demolition or construction activity takes place.
- 2.2.3 The report is for the sole use of the client and its reproduction or use by anyone else is forbidden unless written consent is given by the author.

2.3 DOCUMENTS

- 2.3.1 The position of most trees within the Tree Protection Plan has been taken from a topographical survey provided by the client. The position of trees not shown on the topographical survey have been plotted by eye, their positions measured against fixed structures on site. The position of these trees should not therefore be taken as exact, but it is considered to be a fair representation of their locations within the site and in relation to the proposed building works.

DISCLAIMER: This is an independently produced Arboricultural Report. I have no connection with any of the parties involved in this site or application that could influence or bias the opinions expressed in this report.

2.4 CONTACTS

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3. ARBORICULTURAL IMPACT ASSESSMENT

3.1 INTRODUCTION

- 3.1.1 The purpose of this Arboricultural Impact Assessment is to evaluate the direct and indirect effects of the proposed building works on trees and where necessary recommend solutions or mitigation where appropriate.
- 3.1.2 The assessment will take account of the effects of any tree loss required to implement the design and any potentially damaging activities proposed in the vicinity of the retained trees.

3.2 PLOTTING THE RPAS

- 3.2.1 The British Standard 5837 advises that a Root Protection Area (RPA) should initially be plotted as a circle centered on the base of the stem. However, where pre-existing site conditions or other factors exist which indicate that rooting has occurred asymmetrically, a polygon of equivalent area should be produced. Modifications to the shape of the RPA should reflect soundly based arboricultural assessment or likely root distribution.
- 3.2.2 Trees do not tend to root far under the adopted highway as the anaerobic and compacted conditions are not conducive to healthy tree root growth. Roots are deflected from this area and can be expected to run parallel to the roadway often extending well beyond the generic BS:5837 rooting area radius. The rooting areas of T1 and T4 (Lime) have therefore been plotted as polygons, offset from the highway in order to be a fair representation of the trees' likely rooting areas.

3.3 PLANNING CONSTRAINTS

- 3.3.1 I have confirmed on the Reading Borough Council's Tree Preservation Order Directory that the trees on site are not subject of a Tree Preservation Order and the property is not within a Conservation Area.

3.4 SOIL

- 3.4.1 The British Geological Survey 1:50 000 scale bedrock geology description for this area is: London Clay Formation – consisting of clay, silt and sand. This is a sedimentary bedrock formed in a local environment previously dominated by deep seas.
- 3.4.2 London Clay soils are vulnerable to damage through compaction and may have capacity to shrink and swell with changing moisture levels.

3.5 TREES APPRAISAL

Total Number of individual trees surveyed:	16
Total Number of tree groups surveyed:	2
Number of category 'A' trees / groups:	0
Number of category 'B' trees / groups:	4
Number of category 'C' trees / groups:	13
Number of category 'U' trees:	1

3.6 HIGHWAY TREES

3.6.1 The most significant tree in relation to the build site are T1 and T4, two mature category 'B' Lime growing on the public highway. These are high amenity street trees, part of an avenue of Lime trees planted along Northcourt Avenue which create the leafy character of the road.

3.6.2 As an urban Borough, Reading Borough Council places particular importance on the retention and preservation of street trees. The Council's emerging Tree Strategy recognises that Street trees have an important role in helping to define the character of many areas, enhancing the street scene and softening the hard urban environment as well as providing a barrier to noise and pollution.



Photo 1 - Google image of street trees (T1 & T4) in leaf

3.6.3 The initial design layout proposed the installation of a new access between the two trees. However, following a BS:5837 survey it is recognised that the new access could potentially cause significant damage to these trees through changes in ground level which would be required in order to marry up the height of the entrance drive and associated drop kerb with that of the adopted highway.

3.6.4 The architect has taken on board these concerns and revised the driveway route connecting the development site from the existing access along the front of the existing property in order to prevent damage to the adjacent trees.

3.6.5 This driveway will be of a no-dig geocellular construction and finished with a porous tarmac surface to ensure tree roots can continue to thrive under the new driveway surface (see Section 3.9).



Photo 2 – Brick edging and concrete path to be removed at front of property.

3.7 BHUTAN PINE (T2)

- 3.7.1 The existing pedestrian pathway and proposed new access are both positioned close to T2, a young Bhutan Pine. This tree has been designated a category 'B' due to its prominent position at the front of the property.
- 3.7.2 As the existing brick retaining walls are low-level and lightweight structures, I am satisfied that their removal will not impact on the stability of the tree. The concrete base of the existing pathway will be lifted and replaced with the porous geocell subbase, stacked to create the necessary levels to provide a flat, loadbearing driveway access.
- 3.7.3 The footpath void outside of the new driveway will be filled with fine quality topsoil and landscaped.
- 3.7.4 Provided these groundworks works are undertaken with care and in accordance with the Arboricultural Method Statement within this document, I am satisfied that this application will not have any adverse impact on the health of T2 (Bhutan Pine).
- 3.7.2 Two low lateral branches will need to be pruned in order to give adequate clearance over the new drive. These are minor branches, and their removal will not impact on the wider amenity value of the tree.



Photo 3 - Two low level branches to be removed from T2 (Pine)

3.8 TREE REMOVAL

3.8.2 The following trees / shrubs have been identified for removal in order to facilitate the build.

_Ref:	Species	Comments	Category
T8	Apple (<i>Malus spp.</i>)	Small fruit tree with numerous bark splits and fissures	C1
T9	Pear (<i>Pyrus spp.</i>)	Old pollard, heavily reduced, extensive stem decay.	U
T11	Cherry (<i>Prunus spp.</i>)	Small ornamental tree, reasonable vitality.	C2
T12	Hazel (<i>Corylus avellana</i>)	Mature asymmetrical coppice stool.	C2
T14	<i>Prunus spp.</i>	Graft and root discrepancy at base. Reasonable vitality, mechanical damage to exposed surface roots.	C2
T15	Holly (<i>Ilex aquifolium</i>)	Twin stem from ground level	C2

Figure 1 – Trees to be removed in order to facilitate the proposed build.

3.8.3 All trees identified for removal are fruit trees or small ornamental specimens of no particular arboricultural merit. The category 'C' trees are growing to the side or rear of the property and are set well back from the public highway. They have no wider amenity value and are not highly visible from a public viewpoint.



Photo 4 - T8 (Apple) to be removed in order to facilitate build.



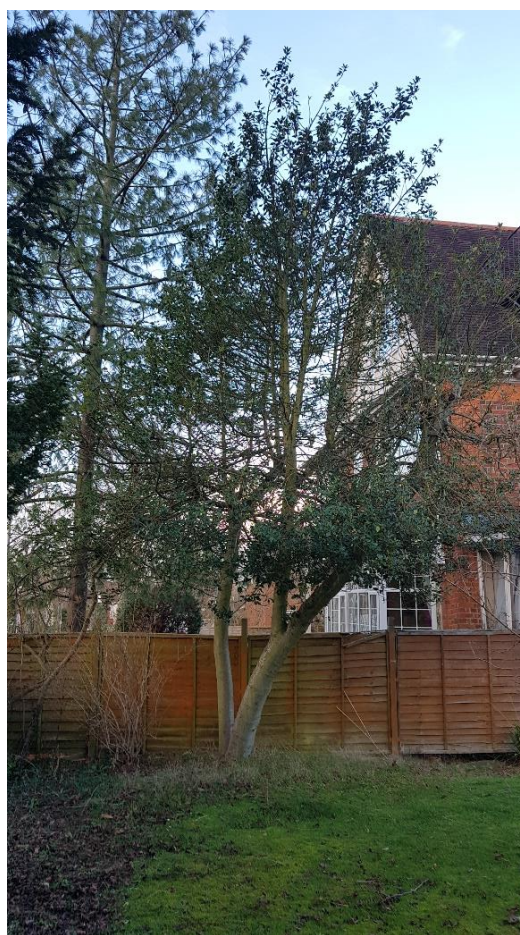
Photo 5 – T9 (Pear) to be removed in order to facilitate build.



Photo 6 - T11 (Cherry) to be removed in order to facilitate the build.



Photo 7 – T12 (Hazel) to be removed in order to facilitate build.



Photos 8 & 9 - T14 (Cherry (left) and 15 (Holly (right) to be removed in order to facilitate the build.

3.9 DRIVEWAY CONSTRUCTION

- 3.9.2 A cellular confinement subbase will be used to construct the new access driveway where it traverses the identified root protection areas of T2 (Bhutan Pine and T1 and T4 (Limes).
- 3.9.3 The existing brickwork and concrete around the existing sunken pedestrian access will be broken up, lifted and removed from site. The ground in this area can then be raised using stacked geocell subbase under the roadway in order to achieve a level surface and rigid subbase.
- 3.9.4 The finished surface will be of porous tarmac and the subbase sufficiently loadbearing so as support domestic and transit - sized vehicles without causing harm to tree roots through compaction of the soil.
- 3.9.5 Wooden posts can be installed to prevent vehicles leaving the driveway causing damage to adjacent ground.
- 3.9.6 Outside of the new access drive, the void from the sunken pathway can be filled with a quality topsoil following the removal of the concrete and brickwork and landscaped.

3.10 TREE PROTECTION DURING BUILDING WORKS

- 3.10.2 Retained trees can be protected with fit for purpose Tree Protection Barriers and Temporary Ground Protection set out in accordance with BS:5837 (2012).
- 3.10.3 The Tree Protection Fencing will consist of a vertical and horizontal scaffold framework braced well to resist impact. The vertical tubes will be spaced at a maximum distance of 2.3m and driven securely into the ground taking care to avoid tree roots. Onto this framework chestnut pale fencing a minimum of 1.2m high will be securely fixed. The fencing will be braced and sufficient to resist easy movement from work operatives and accidental vehicle impact.

3.11 SERVICES

- 3.11.2 Electrical conduits to the new building will be connected to those of the existing property without trenching within the rooting areas of the retained trees.

3.12 REPLACEMENT PLANTING

- 3.12.2 The applicant intends to replace the 6 felled trees with 12 specimen trees in order to maintain the verdant setting of the nursing home and ensure there is no net loss of tree cover on site as a result of the build.
- 3.12.3 The Privet hedge along the front boundary will be infilled with additional semi-mature privet plants in order to create continuous screening along the front boundary following the removal of the pedestrian access.

Quantity	Species	Comments	Minimum planting sizes
3	3x Japanese Maple (<i>Acer palmatum</i>)	Small ornamental trees in front lawn.	1.5m / 50lt pot
2	Liquidambar (<i>Liquidambar styraciflua</i>)	Slender upright, good autumn colour	10-12
1	Red flowering Hawthorn (<i>Crataegus</i> 'Crimson Scarlet')	Taller Hawthorn, pink flowers up to 12m high.	10-12
2	Maidenhair Tree (<i>Ginkgo biloba</i>)	Slender tall trees on boundary line – good autumn colour	8-10
1	Indian Bean Tree (<i>Catalpa bignoniodes</i> 'Nana')	½ Standard topiary feature	8-10
1	Snowy Mespilus (<i>Amelanchier lamarkii</i>)	Multi-stem	200-250
2	Flowering Cherry (<i>Prunus yedoensis</i>)	Flowering ornamental for rear lawn.	10-12
1	Cotoneaster	Evergreen and berries – screening from highway	8-10
10-20	Privet (<i>Ligustrum ovalifolium</i>)	Semi evergreen and semi mature to infill boundary hedge where pedestrian footpath is removed.	150-180mm Bare root

Figure 2 – Replacement Trees

3.13 CONCLUSIONS

- 3.13.2 This report demonstrates that the trees growing on and adjacent to Northcourt Lodge, 65 Northcourt Avenue, Reading, have been properly considered in accordance with Arboricultural and Planning best practice (BS:5837 2012 Trees in Relation to Design, Demolition and Construction').
- 3.13.3 The application requires the removal of six low grade category 'C' trees. The loss of these trees will be mitigated with a robust scheme of 2:1 replacement planting on site using a variety of good quality specimen trees.
- 3.13.4 The proposed site access has been revised following arboricultural input which identified a potential area of conflict with the proposed new access in relation to the highway trees. The revised scheme takes on board all arboricultural recommendations. The proposed new access from Northcourt Avenue has been removed and the new access drive will be located to the front of the property and constructed using a 'no-dig' subbase to ensure adjacent trees will not be harmed by access drive.
- 3.13.5 The proposed new building is located outside of the rooting areas of all retained trees on site. Retained trees can be protected during the proposed building works in accordance with the guidelines and recommendations in BS:5837 2012 - Trees in Relation to Design, Demolition and Construction.
- 3.13.6 The proposal therefore complies with BS:5837 2012 - Trees in Relation to Design, Demolition and Construction as it related to trees and development and the application is now considered to be acceptable with regards to trees.

4 ARBORICULTURAL METHOD STATEMENT (AMS)

4.1 INTRODUCTION

- 4.1.1 This Arboricultural Method Statement specifies the detailed methodology that will be employed to prevent damage to trees during building works to construct a new residential building at Northcourt Lodge in order to increase the essential healthcare provision of the Nursing Home.
- 4.1.2 The correct and timely installation of tree protection measures such as tree protection barriers and ground protection surfaces are critical to ensure the long-term retention of a healthy tree stock adjacent to the development.
- 4.1.3 This method statement will be read, approved and agreed to by all key personnel prior to the commencement of works within the site.

4.2 SITE SUPERVISION AND MONITORING.

- 4.2.1 The schedule proposed here for site supervision and monitoring is considered reasonable and proportionate to the arboricultural issues and intensity of development within the site.
- 4.2.2 The Site Manager will assume responsibility for ensuring no works are undertaken on site except in complete accordance with the approved Arboricultural Method Statement.
- 4.2.3 **A pre-commencement site visit will be held once the Tree Protection Fencing is installed as shown on the Tree Protection Plan and prior to the commencement of building works on site.**
- 4.2.4 **The Local Authority Tree Officer will be given a minimum of five days' notice of the time and date of the meeting so that they may attend should they wish to do so.**
- 4.2.5 The purpose of the pre-commencement meeting will be to confirm the location and construction of the Tree Protection Measures and ensure a common understanding of the requirements for Tree Protection within the site.
- 4.2.6 If the Local Planning Authority is unable to attend, photographic evidence of the tree protection fencing will be emailed to the appointed planning officer once it has been erected.
- 4.2.7 A copy of the Arboricultural Method Statement and Tree Protection Plan will be available on site for reference.
- 4.2.8 The Site Manager will also notify the Local Authority Tree Officer 5 days prior to the tree protection measures being removed on completion of development.

4.3 PHASING OF WORKS

STAGE 1 (PRE-COMMENCEMENT)

TREE WORKS



ERECTION OF TEMPORARY TREE PROTECTION FENCING



PRE-COMMENCEMENT SITE MEETING
(NOTIFY LOCAL AUTHORITY -MIN 5 DAYS)



STAGE 2 (CONSTRUCTION)

REMOVAL OF CONCRETE SUBBASE AND BRICKWORK FOR PEDESTRIAN PATHWAY
(REALIGN AND EXTEND TREE PROTECTION FENCING WHERE NECESSARY)



PIN OUT GEOCELL AND LAY NO-DIG ACCESS DRIVEWAY



CONSTRUCTION OF NEW RESIDENTIAL BUILDING
TREE PROTECTION TO REMAIN RIGID AND INTACT



STAGE 3 (POST DEVELOPMENT)

FINAL POROUS TARMAC SURFACE OF NEW DRIVEWAY LAID



REMOVE TREE PROTECTION FENCING
NOTIFY LOCAL AUTHORITY -MIN 5 DAYS)



FINAL LANDSCAPE OPERATIONS, TOPSOIL OPERATIONS
TREE PLANTING, GRADING EDGE OF DRIVEWAY ETC.

4.4 TREE WORKS

- 4.4.1 The following tree works will take place prior to the commencement of any building works on site:

Ref:	Species	BS:5837 category	Comments
T2	Bhutan Pine	B1	Remove two low lateral branches on west side of trunk to lift canopy over new access drive.
T8	Apple	C2	Fell to ground level and remove stump
T9	Pear	U	Fell to ground level and remove stump
T11	Cherry	C2	Fell to ground level and remove stump
T12	Hazel	C2	Fell to ground level and remove stump
T14	<i>Prunus spp.</i>	C2	Fell to ground level and remove stump
T15	Holly	C2	Fell to ground level and remove stump

Figure 6 – Schedule for tree work

4.5 TREE WORKS BEST PRACTICE

- 4.5.1 All tree works shall be undertaken in accordance with BS:3998 2010 'Tree Work Recommendations'.
- 4.5.2 No vehicles will be driven beyond the existing driveway onto unprotected ground during the course of the tree work operations.
- 4.5.3 Chippings arising from the work will not be piled around the bases of trees on or off the site. Wood, brash and any other arisings from the tree work will not be burnt on site.
- 4.5.4 A properly qualified and experienced company will be employed who carry Public and Products Liability Insurance with a minimum of £2,000,000 cover and the relevant Employers Liability Insurance. A List of approved contractors is available from the Arboricultural Association – www.trees.org.uk.

4.6 PROTECTED SPECIES

- 4.6.1 In accordance with the Wildlife and Countryside Act - 1981, Conservation - Natural Habitats - Regulations 1994 and Countryside Rights of Way Act - 2000, the property owner will consider the timing and type of tree work operations to avoid causing disturbance to any nesting or breeding birds or bat roosts that may be present within trees.
- 4.6.2 It is an offence (subject to exceptions) to intentionally kill, injure, or take, possess, or trade in any wild animal listed, and prohibits interference with places used for shelter or protection, or intentionally disturbing animals occupying such places.
- 4.6.3 Non-urgent major tree work involving tree removal or reduction operations should not be undertaken during the bird nesting or breeding season, which is considered to be from 1 March to 31 July. However, depending on seasonal temperatures, some birds continue breeding into August and September.
- 4.6.4 All wild birds, their young, their eggs and active nests are protected under law. It is an offence to damage a nest intentionally while it is in use or being built and hedge cutting is highly likely to damage nests or cause them to be deserted.

4.7 TREE PROTECTION FENCING

- 4.7.1 No works will commence, including construction, excavation or demolition, prior to the Tree Protection Fencing being installed as identified in the Tree Protection Plan.
- 4.7.2 The Tree Protection Fencing will consist of a vertical and horizontal scaffold framework braced well to resist impact. The vertical tubes will be spaced at a maximum distance of 3m and driven securely into the ground taking care to avoid any tree roots. Onto this framework Heras Panels 2m x 3m will be secured.
- 4.7.3 At no time will Tree Protection Fencing be removed or relocated (except in accordance with this report) without professional arboricultural advice and without the prior consent of the Local Authority Tree Officer.
- 4.7.4 The Site Manager will notify the Tree Officer once Tree Protection Fencing is installed on site and 5 days' prior to the Protection Fencing being removed on completion of the build so that a representative from the Local Authority may visit the site if considered necessary.

4.8 CONSTRUCTION EXCLUSION ZONE

- 4.8.1 The area behind the tree protection fencing is designated the Construction Exclusion Zone and is to be isolated from all activity during work on the site.

THERE WILL BE NO STORAGE, PARKING, VEHICLE MOVEMENT OR PEDESTRIAN ACTIVITY, TEMPORARY OR OTHERWISE, WITHIN THE CONSTRUCTION EXCLUSION ZONE AT ANY TIME DURING THE COURSE OF THE BUILD.

4.9 NO-DIG DRIVEWAY

- 4.9.1 The subbase for the new access road will be laid prior to construction works in relation to the new building commencing on site.
- 4.9.2 The existing brickwork and concrete around the sunken pedestrian access will be broken up, lifted by hand and barrowed from site. The ground in this area will then be raised using stacked geocell subbase under the roadway in order to achieve a level surface and rigid subbase. Areas outside of the driveway will be filled with a quality topsoil up to the surrounding ground levels. The tree protection fencing will then be realigned to run alongside the new access.
- 4.9.3 Existing turf within the footprint of the proposed driveway can be scraped back lifting the turf and a thin layer of the roots away.
- 4.9.4 Shrubs and plants within the driveway footprint will be removed and the site will be prepared by raking back all debris and plant matter. Any ruts in the ground will be levelled with a coarse pH neutral sand or clean angular stone.
- 4.9.5 Timber or aluminium edging boards will be installed to provide an upstand of approximately 200mm between the adjacent ground level and finished driveway surface in order to contain the aggregate as per the manufacturer's recommendations.
- 4.9.6 A Geotextile Fabric will be laid across the site, overlapping adjacent rolls by a minimum of 150mm. It may be necessary to lightly pin the Geotextile in place until the overlying layers are installed.
- 4.9.7 A Cell web system 150mm deep will then be opened out and pinned in place between the edging boards. Pin spacing will vary according to the site conditions but will generally be required at 1m – 2m centres on flat surfaces, mainly placed around the perimeter of the area and where adjacent sections of the cellular confinement system abut each other, with less in the middle of the area.
- 4.9.8 The open cells will be filled with clean, open graded aggregate with particles between 5 and 45mm, (no fines Type 1 Roadstone of a non-marine source) working toward the tree from the furthest point away and using the filled cells as a platform.
- 4.9.9 Once the Geo-textile grid has been installed and filled with aggregate as per the manufacturer's recommendation it will be used as root protection and access to the build area during the construction process.
- 4.9.10 Where necessary, following completion of the development, topsoil can be used to grade the edge of the driveway and parking areas to meet the adjacent ground level.
- 4.9.11 Posts should mark the edge of the driveway and prevent vehicles from leaving the driveway when maneuvering.
- 4.9.12 The final aesthetic surface of the roadway shall be porous tarmac. This can be laid on completion of the building construction works.

4.10 SERVICES

- 4.10.1 Electric conduits will be connected to those of the original property without the need for any new service ingress on site. If at any point this is discovered not to be viable and excavation will be required, then the advice of the Consultant Arborist must be sought.

4.11 GENERAL CONSIDERATIONS

- 4.11.1 Roots can be killed by pollution of the rooting area by chemicals and leaching. Loose, granular or liquid materials, including cement mix and fuel will be stored on an impermeable membrane placed outside of the rooting areas of all trees.
- 4.11.2 Particular care will be taken in the planning of deliveries if they require wide or tall loads and plants with booms, rigs or counterweights which can cause serious and permanent damage to trees making their safe retention impossible.
- 4.11.3 Any transit or traverse of plant in proximity to the trees and or tree protection barriers will be conducted under the supervision of a banksman to ensure that adequate clearance from trees is maintained at all times.
- 4.11.4 Materials will be delivered to site regularly in small quantities in order to keep vehicle delivery sizes small and on-site storage to an absolute minimum.

4.12 NEW TREE PLANTING

- 4.12.1 The replacement trees should be planted within the next or current planting season November to March (whichever is soonest) following the completion of the building works. Planting will be undertaken when soils are moist and free from frost.
- 4.12.2 Planting trees too deep is a major cause for premature decline. The tree planting pits will be dug to the same depth as the woody roots to prevent settlement and sinking post planting. The soil backfilled into the planting pit will consist of 1/3 organic matter (well rooted manure or other compost) with 2/3 existing soil.
- 4.12.3 Trees will be staked where necessary with two stakes and a cross bar set as low down the tree as possible to allow for canopy and stem movement whilst supporting the structural function of the root system.
- 4.12.4 Tree stakes will be driven into the ground to a sufficient depth to provide full support before each tree is planted. Supporting straps around the stem will allow for the radial expansion of the stem. A rubber bung will prevent the tree from coming into direct contact with the tree stake.
- 4.12.5 Twice weekly watering will be undertaken during the first two growing seasons (April to October) following planting to ensure successful establishment. During periods of prolonged hot weather the frequency of any watering visits may need to be increased.
- 4.12.6 The volume of water applied to the base of the tree is to be determined by inspection on each occasion. Rain water and precipitation alone is not sufficient to irrigate containerised trees therefore irrigation is likely to be necessary in all but the most prolonged periods of wet weather. All watering should be sufficient to wet the entire root ball, including the lower levels of soil
- 4.12.7 During the third year the new trees and shrubs should continue to be monitored, with irrigation resumed during periods of drought or where plants are showing signs of drought stress.
- 4.12.8 Any new trees which fail to survive or thrive, or which become irredeemably damaged or diseased, within the period of 5 years following planting will be replaced with another of a similar size (and species if appropriate).

4.13 UNFORESEEN CIRCUMSTANCES

- 4.13.1 In the event of unforeseen circumstances whereby it is not possible to work in accordance with the Arboricultural Method Statement then advice should be sought immediately from a qualified Arboriculturist.
- 4.13.2 **THERE SHALL BE NO DEVIATION FROM THIS METHOD STATEMENT WITHOUT CONSULTATION WITH A QUALIFIED ARBORICULTURIST AND / OR THE WRITTEN CONSENT OF THE LOCAL PLANNING AUTHORITY.**

5. APPENDICES

- 1) Survey
 Appraisal
- 2) Key
- 3) BS:5837 Cascade Chart for Tree Quality Assessment
- 4) Survey Data
- 5) Plans
- 6) Tree Protection Specification
- 7) Qualifications

1) SURVEY

APPRAISAL

- The trees were surveyed on Wednesday 30th December 2020 from ground level from the garden of Northcourt Lodge, North Court Avenue and the adjacent public highway only.
- The weather conditions were dry and clear. Visibility was good.
- Heights were estimated where part of a group. Soil samples were not taken.
- Trees are dynamic living organisms subject to change, whose health and condition can be subject to significant change influenced by internal and external factors. The assessment of trees in this report are based on the condition assessed at the time of inspection and are valid for 18 months.
- If the condition of the trees evidently changes or the trees are subject to extreme weather conditions before this date; further inspection may be required. No tree is ever absolutely safe due to the unpredictable laws and forces of nature.
- The tree survey identified 16 individual trees and two groups growing on or adjacent to the site which were relevant to this planning application.
- The trees on site were assessed for their quality and benefits within the context of the proposed development and categorised in accordance with the recommendations in the BS: 5837:2012 – 'Trees in Relation to Design, Demolition and Construction'.

2) KEY

Ref:	T1 = Tree 1 A1 = Area 1	G1 = Group 1 W1 = Woodland 1
Species:	Common name (Botanical name)	
Height:	Measured with a clinometer (m) where possible or estimated when part of a group	
Stem:	Stem diameter taken at 1.5m with girth tape or rule and recorded in millimeters	
Branch spread:	Paced measurements at compass points or with a laser measure.	
Crown clearance:	Existing height above ground level of canopy and / or first significant branch direction of growth in metres e.g., 2.4 (N) where relevant.	
Epics:	Lower canopy created by epicormic growth.	
Age Class:	Newly planted - 3 years following planting. Young - Tree well established but with juvenile crown form Young Mature - Tree in first third of usual life expectancy for species Mature - Tree in second third of usual life expectancy for species Over Mature - Tree in final third of usual life expectancy for species / exhibiting signs of crown retrenchment & senescence. Veteran - Older than usual for species or with historical/ cultural / ecological value	
General Observations:	Made with reference to physiological condition (health, vigour) and structural condition, noting evidence of decay, structural weakness and physical defect and preliminary management recommendations.	
Estimated Remaining Contribution:	Estimated in years - less than 10, 10-20, 20-40, 40+	
BS: 5837:2012 category rating:	In accordance with the guidelines of the British Standard.	
	 Category 'A' tree (Green)  Category 'C' tree (Grey)  Category 'B' tree (Blue)  Category 'U' tree – Fell (Red)	
RPA Area	BS:5837 (2012) Root Protection Area calculation in square metres	
RPA Radius	BS:5837 (2012) Root Protection Area calculation circle radius in metres. ¹	
(e)	Estimated where access is not available to measure.	
(FEA)	Feathered form	
(Ave)	Average – usually in the case of multi-stem trees.	

¹ The root protection area radius is for information only and may not be appropriate in every case. BS:5837 advises that 'the RPA for each tree should initially be plotted as a circle centered on the base of the stem. Where pre-existing site conditions or other factors indicate that rooting may have occurred asymmetrically, a polygon of equivalent area should be produced. Modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distributions.'

3) BS:5837 (2012) TABLE 1: CASCADE CHART FOR TREE QUALITY ASSESSMENT

CATEGORY & DEFINITION		CRITERIA (including sub-categories where appropriate)		
Trees unsuitable for retention				
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 10 years.	Trees that have a serious, irremediable, structural defect such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g., where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning. Trees that are dead or showing signs of significant, immediate and irreversible overall decline. Trees infected with pathogens of significance to the health and / or safety of other trees nearby or very low-quality trees suppressing adjacent trees of better quality. NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve			
	Mainly Arboricultural Qualities	Mainly Landscape Qualities	Mainly cultural values including conservation	
Trees considered suitable for retention				
Category a Trees of High Quality with an estimated remaining life expectancy of at least 40 years.	Trees that are particularly good examples of their species especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and / or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and / or landscape features.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood pasture)	
Category b Trees of Moderate Quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g., presence of significant though remedial defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality to merit the category 'A' designation.	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little contribution to the wider locality.	Trees with material conservation or other cultural value.	
Category c Trees of Low Quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Trees present in groups or woodlands but without this conferring on them significantly greater collective landscape value; and/ or trees offering low or only temporary / transient landscape benefits.	Trees with no material conservation or other cultural value.	

4) SURVEY DATA

Ref:	Species	Height (m)	Dia. at 1.5m (mm)	Canopy				Crown Clearance	Life-stage	General Observations & Recommendations	Remaining Contribution	BS:5837 Category	RPA Radius	RPA Area
				N	E	S	W							
T1	Lime (<i>Tilia spp.</i>)	12	390	4.7	4.5	3.8	3.9	5.5	M	Early mature highway tree. Fair form and vitality. Cracked retaining wall on far side of footpath near base.	40+	B1	4.7	69
T2	Butan Pine (<i>Pinus wallichiana</i>)	13.5	260	3.6	3.6	3.6	3.6	2.5	YM	Reasonable form, foliage slightly sparse. Enclosed within brick retaining walls.	20-40	B1	3.1	31
T3	Sycamore (<i>A. pseudoplatanus</i> .)	5.5	120	1	.5	2.5	2.5	3	Y	Swept stem and asymmetrical canopy due to competition with adjacent trees.	40+	C1	1.5	6.5
T4	Lime (<i>Tilia spp.</i>)	14	540	4.8	4.5	5.3	4.5	6	M	Highway tree. Fair form and vitality.	40+	B1	.5	132
G5	Lawson Cypress (<i>Cham. lawsoniana</i>)	9	<220	1.8	1.8	1.8	1.8	2	YM	Seven offsite slender trees, previously reduced. Reasonable vitality, poor form.	20-40	C2	2.6	22
T6	Apple (<i>Malus spp.</i>)	6	220(e)	2.5	3	4.2	3	1.8	M	Offsite fruiting tree. Prolific sucker growth.	20-40	C2	2.4	18
T7	Silver Birch (<i>Betula pendula</i>)	9	210(e)	3.7	3.7	3.7	3.7	2	M	Offsite tree, fair form and vitality.	20-40	B2	2.5	20
T8	Apple (<i>Malus spp.</i>)	4	190 @1m	2.8	3.3	3.3	3.2	1.5	M	Small fruiting tree. Bark splits and fissures.	20-40	C2	2.3	16.3
T9	Pear (<i>Pyrus spp.</i>)	6	420 @<2001m	2.5	1.5	3	4	1	OM	Old pollard tree, heavily reduced. Extensive decay.	<10	U	5	80
G10	Ash & Lawson Cypress group	8	270@1m	2	2	2	2	1.6	YM	Offsite linear group of conifers with a couple of young Ash saplings.. Slightly pendulous & slender form. 0.5m spacings and tight forks may limit safe useful life expectancy.	10-20	C2	2.4	18
T11	Cherry (<i>Prunus spp.</i>)	4.5	300(e)	3.3	2.4	3.1	4	1.6	M	Small ornamental tree.	10-20	C1	3.2	33
T12	Hazel (<i>Corylus avellana</i>)	4	400(e)	2.6	2.5	0	2.5	0	M	Mature coppice stool. Asymmetrical canopy due to competition with adjacent trees.	40+	C1	3.6	41
T13	Elder and Pear group	6.5	200	4.2	3	3	3	2	OM	Offsite tree, prolific ivy growth. No access to base.	10-20	C1	4.8	72
T14	Prunus (<i>Prunus spp.</i>)	6	210	2	2	2	2	1.6	Y	Graft / root discrepancy at base. Fair form and vitality. Mechanical damage to exposed surface roots.	10-20	C2	2.4	18
T15	Holly (<i>Ilex aquifolium</i>)	5.5	160	2	2.9	2.8	2.4	2	M	Twin stem from ground level.	20-40	C2	4.8	72
T16	Yew (<i>Taxus baccata</i>)	3.5	140(e)	1.5	1.5	1.5	1.5	1.8	M	Base obscured by dense ivy and vegetation. Canopy heavily reduced.	20-40	C2	1.7	89
T17	Yew (<i>Taxus baccata</i>)	4.5	180(e)	2.2	2.2	2.2	2.2	1.8	M	Base obscured by dense ivy and vegetation. Canopy heavily reduced. Low vitality.	10-20	C2	2.2	14.7
T18	Holly (<i>Ilex aquifolium</i>)	5.5	150(e)	2.3	2.3	2.3	2.3	1.5	M	Base and trunk obscured by dense ivy growth	20-40	C2	1.8	10.2

5) PLANS

Attached as separate pdf documents.

- Tree Plan ref: PLAN 05500/2021
- Tree Protection Plan ref. NORTHCOURT LODGE TPP 05500 /2021 FINAL

6) TREE PROTECTION FENCING SPECIFICATION

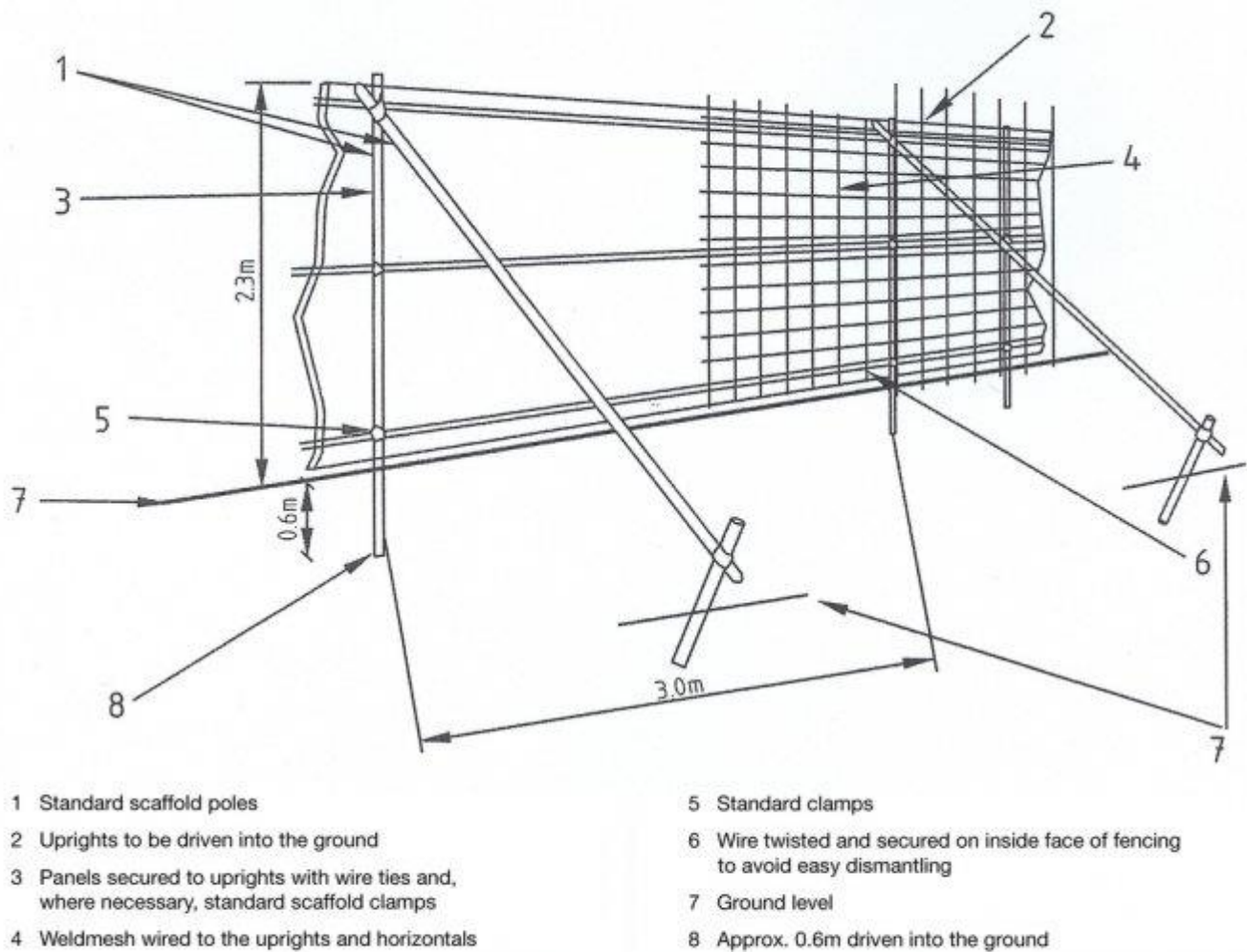


Figure 2. – Protective fencing for RPA

Extract from BS:5837 (2012) Trees in Relation to Design, Demolition and Construction.

7) QUALIFICATIONS

- This Arboricultural report has been prepared by Sarah Duckworth, Independent Arboricultural Consultant, trading as Duckworth's Arboriculture.
- I have over 17 years' experience working in the field of Arboriculture and for the past 15 years I have worked as a Local Authority Tree Officer both directly and independently providing contracted support. Since 2010 I have worked as a private consultant carrying out a range of Arboricultural Reports and Assessments for private clients.
- I hold the Royal Forestry Society's Professional Diploma (Level 6) for which I received the Lockhart Garrett Award commendation in 2009.
- I also hold the Arboricultural Association's Technicians Certificate (with Distinction) and am a LANTRA qualified Professional Tree Inspector.
- I am a Professional Member of both the Arboricultural Association and the Consulting Arborist Society (CAS).