USHERWOOD ARBORICULTURE

BS 5837:2012 Tree Survey & Arboricultural Impact Assessment

35 Crescent Road
Caterham
CR3 6LE

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1. Instruction

Usherwood Arboriculture have been instructed to provide a tree survey, arboricultural impact assessment, method statement and tree protection plan with regards to the demolition of the existing house and erection of 4no. 3 bed terrace houses with associated landscaping at 35 Crescent Road, Caterham, CR3 6LE. The survey has been carried out in accordance with BS5837:2012, Trees in relation to design, demolition and construction-Recommendations.

Drawing No.	Title	Drawn/Written by
	Topographical Survey	OmegaGeo
18-106-P054	Proposed Site Plan	DC Architects

Table 1. Drawings and documents supplied for consideration within this report

2. Executive Summary

This document takes into account the potential impact of development upon trees both within and in close proximity to 35 Crescent Road. A total of 18 individual and 3 groups of trees have been surveyed, 6 individual trees within adjoining properties and 12 individual and 3 groups within the site itself. The proposal requires the removal of 7 individual and 2 groups of category C trees of low quality, as well as a single category U Larch located directly behind the existing house. A minimum of 11 replacement trees have been proposed to mitigate the impacts of tree removal and a Arboricultural Method Statement will be produced to ensure that off-site trees are given due consideration throughout the proposed development.

3. The Site

The application site comprises a detached property located on the north east side of Crescent Road within an area designated as wooded hillside. The site slopes steeply upwards from Crescent Road and is bounded on all sides by residential properties and gardens. The garden to the rear of the existing house is relatively unkempt and composed of a mixture of generally self-sown plants and small trees. Larger woodland species bound the garden to the south east and rear north west.

Soil conditions.

The British Geological Survey, Geology of Britain viewer describes the local bedrock geology as Holywell nodular chalk formation and New Pit chalk formation (undifferentiated) – chalk, there is no specific information on the superficial layer.

Legal Constraints

Trees can sometimes be the subject of a Tree Preservation Order (TPO) or a property may be situated within a designated conservation area. Both a TPO and conservation area designation require the owner/occupier or those wishing to work on trees to seek the Council's consent or provide written notice prior to carrying out any works. It is a criminal offence to carry out any works to protected trees without the Council's consent. Usherwood Arboriculture has not carried out a statutory check with regards to this or surrounding sites.

Image above courtesy of Google Maps with 35 Crescent Road outlined in red.

Image above courtesy of Bing Maps Birds eye view, highlighting the main subject trees.

4. Tree Survey

Trees were assessed in accordance with recommendations and guidelines contained within British Standard 5837:2012 - 'Trees in relation to design, demolition and construction-Recommendations' henceforth referred to as BS5837. The survey was carried out in relation to the condition and quality of trees growing either within or near the boundary of the site.

Where details have been omitted including the heights of crown break and the direction of the first major lateral branch, these details were not seen as being relevant to this application. Where access allowed, tree heights were measured with a Haglof electronic clinometer and trunk diameters with a diameter tape measure. Crown spreads were measured with a tape measure at the four cardinal points.

All trees were assessed from the ground utilizing the Visual Tree Assessment method as developed by Mattheck and Breloer (The Body Language of Trees, Research for Amenity Trees No 4 Department of the Environment).

This tree survey should not be treated as a hazard assessment, it has been carried out to inform the planning process with regards to the appropriate retention and protection of trees as visual and ecological assets within the landscape. However, where clear and obvious defects have been observed, the relevant parties have been informed.

Tree Assessment and Categorization

Tree quality ratings have been assessed in accordance with BS5837's Table 1, Cascade chart for tree quality assessment.

U= Trees in such a condition that any existing value would be lost within 10 years and which should in the current context, be removed for reasons of sound arboricultural management. (Trees that have serious, irremediable structural defects, such that their early loss is expected due to collapse or ill health including trees that will become at risk due to the loss of other U category trees).

A = Trees of high amenity quality and value in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested).
1) Trees that are particularly good examples of their species if rare, unusual or essential components of groups or formal or semi-formal arboricultural features.
2) Trees, groups of trees or woodland which provide a definite screening or softening effect to the locality in relation to views in or out of the site, or those of particular visual importance.
3) Trees groups or woodlands of significant conservation, historical, Commemorative or other value (e.g. veteran tree or wood pasture).

B = Trees of moderate quality and amenity value: those in such a condition as to be able to make a significant contribution (a minimum of 20 years is suggested).
1) Trees that might be included in the high category but are down-graded because of impaired condition (e.g. remediable defects).
2) Trees, groups of trees or woodland that form distinct landscape features but do not form essential components of the landscape.
3) Trees with clearly identifiable conservation or other cultural benefits.

C = Trees of low quality and amenity value currently in adequate condition to remain until new planting is established (a minimum of 10 years is suggested) or trees under 150 mm stem diameter.
1) Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.
2) Trees presenting groups or woodlands but not with a significantly higher landscape value and or offering low or temporary/transient screening benefit.
3) Trees with no conservation or other cultural benefits.
Note: Category C trees are the least suitable for retention, where they would impose a significant constraint on the development their removal for development purposes may be considered acceptable by the LPA.

5.Tree Survey Data & Appraisal

This survey concerns 18 individual and 3 groups of trees, full details of the survey data can be found in the Tree Survey Schedule at **Appendix 1**. An explanation of Tree Quality category ratings is set out on the previous page.

Category A individual trees and groups of trees.

No individual trees hasve been graded as category A (trees of high quality) as part of this survey.

Category B individual trees and groups of trees.

4 individual trees have been graded as category B (trees of moderate quality) as part of this survey.

Category C individual trees and groups of trees.

13 individual trees and 3 groups of trees have been graded as category C (trees of low quality) as part of this survey.

Category U individual trees and groups of trees.

1 individual tree has been graded as category U (trees unsuitable for retention) as part of this survey.

17 tree species were recorded as part of this survey, their common and botanical names are set out within the table below.

Common Name	Botanical Name
Bay	Laurus nobilis
Blackthorn	Prunus spinosa
Common Ash	Fraxinus excelsior
Common Beech	Fagus sylvatica
Common Hawthorn	Crataegus monogyna
Common Holly	Ilex aquifolium
Common Lime	Tilia x vulgaris
Common Yew	Taxus baccata
Cotoneaster	Cotoneaster sp
Cultivated Apple	Malus domestica
European Larch	Larix decidua
Hazel	Corylus avellana
Laurel	Prunus laurocerasus
Lawson Cypress	Chamaecyparis lawsoniana
Purple Cherry Plum	Prunus cerasifera ‘Pisardi’
Sycamore	Acer pseudoplatanus
Western Red Cedar	Thuja plicata

Table 2. Tree species recorded on site and their botanical names

Various site images have been included in the following pages, however, due to the steep terrain and overgrown nature of the site, it was not possible to capture clear images of all trees.

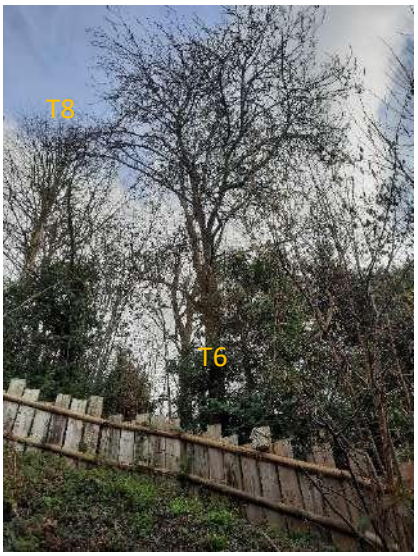
Trees growing within the site are of generally low quality with suppressed and Ivy-clad crowns, larger trees bound the site perimeter and are generally also of a low quality.

A steep bank rises directly behind the existing house with a few 'topped and lopped' stumps of Sycamore and other species, these trees have not been included within the survey.

Tree groups G1, G2 & G3

Images above of 3 category C groups tree groups growing on the banked frontage and mainly comprising of young and semi mature mixed species. Groups 1 and 2 would remain whilst G3, a linear group on the front south-east boundary may be retained.

Trees T4-T6 Off-site Ash



Images above of T4, a small semi mature Ash tree, growing among a linear group of mixed saplings on the site boundary. T6 is a category B off-site tree that will be adequately protected throughout the proposed development.

T8 Common Lime & T9 Apple

Images above T8, a previously reduced category B off-site Lime and T9 Apple, to be retained within the proposed development.

T10 Off-site Lime

Images above of the category C off-site Lime tree comprising 2 main stems in generally declining condition. The general topography and historic built structures will have curtailed root growth into the application site.

T16 Category U Larch & T18 off-site Bay

Images above of T16, a large mature declining larch and T18, an off-site category B Bay tree.

T20 Western Red Cedar & T21 Lawson Cypress

Images above of category C trees T20 and T21 along with T19 Yew, not visible in the above images will be removed to facilitate the proposed development.

6. Arboricultural Impact Assessment

The term Arboricultural Impact Assessment is self-explanatory. It sets out the potential risks and threats associated with proposed construction to trees both within and near to an application site and seeks to minimise those risks through the implementation of a sound and recognised methodology set out within an arboricultural method statement.

The assessment also takes into account the visual and environmental impacts of any proposed tree loss as well as potential future issues resulting from the proposed development such as shading and leaf drop from the subject trees.

Construction and development in general can impact trees in a number of ways, the most notable being damage to the tree's root system leading to decline and potential structural instability. BS5837 recognises this and accordingly sets out recommendations to minimise damage associated with the effects of soil compaction and root severance.

The proposal to demolish the existing house and replace with a block comprising 11 units and associated landscaping will require the removal of 7 individual and 2 groups of trees of low quality from within the site, with a single tree requiring removal for sound arboriculturalreasons.

Trees to be removed

BS5837:2012 Category	Tree Number	Total tree removals per category
A	None	-
B	None	-
C	G1, G2, T13, T14, T15, T17, T19, T20, T21	7 individual & 2 groups
U	T16	1

Table 3. Trees to be removed to facilitate development.

The trees identified above will require removal due to their location within the footprint of proposed buildings, vehicular accessways and new landscape features.

It is acknowledged that all trees, even those with a category C quality rating make an important visual and ecological contribution to the character of the local landscape. However, where those trees pose a constraint to reasonable development and their quality and potential longevity within that landscape is not such as to warrant inclusion within a tree preservation order, it should be considered a sensible solution to remove and replace with suitable species elsewhere within the site. In this instance, the site allows for the inclusion of approximately 8 replacement trees which will comprise mainly native species to be specified as part of a detailed landscape scheme.

Retained trees

Retained trees comprise all those situated in adjacent gardens and land where their root protection areas or crown spreads whichever is the greater encroach within the application site. In addition, it is proposed to retain the following trees within the application site comprising **G3**, **T4**, **T5** & **T7** a linear group of mainly undestorey trees growing on the south-east site boundary and **T9** on the north east rear boundary.

The general structural and physiological condition of the above trees is poor-fair at best, and if construction necessitates their removal, a minimum 1:1 replacement would be proposed specifically on the south-east boundary.

T6 category B off-site Ash grows just outside of the application site, and its root protection area has been modified to take current site conditions into account. Excavation to the north and north-west of the tree may expose roots, although with a number of smaller Ash and other trees nearby it would be difficult to identify roots directly belonging to T6. I suggest that existing site conditions will have curtailed a certain amount of root growth and that proposed excavation and construction will have minimal impact upon T6.

T8 category B off-site Lime grows just outside of the application site and adjacent to the rear of the application site where ground levels are expected to be retained in their present format. Any proposed landscaping will be described in greater detail within an arboricultural method statement to be prepared following general agreement of the development.

T11 & **T12** category C and B off-site Ash trees growing on the north-west site boundary also grow in an area at the rear of the site earmarked for minimum intervention. The outer edge of T12's notional root protection area will incur a minimal ingress from a rear retaining wall whilst the remainder of the root protection area will be subject to minor landscape works to be described within an arboricultural method statement.

Root Protection Areas- General information

BS 5837 describes the root protection area (RPA) as a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.

The **Root Protection Areas (RPA)** have been calculated in accordance with Table D1 of BS5837:2012. Notional RPA's are plotted on the arboricultural impact assessment plan at **appendix 3**. The RPA is defined by the formula in paragraph 4.6 from the British standard and may be refined by considering existing on-site constraints to root activity such as buildings, walls, earthworks, hard paving and services.

Root Systems and compaction

Root systems can easily be damaged during construction works, leading to the sometimes-rapid decline of valuable trees. The biggest problem for trees on or close to construction sites is the compaction of soil caused by inappropriate vehicular movement and storage of materials especially where the site is founded on a compressible clay.

Numerous surveys have shown that a significant proportion of a tree's roots proliferate in the top 600-1000mm of soil. There will of course be roots that may go down to depths of 3 metres or more although these will be in the minority. Roots in the upper soil surface find it far easier to intercept moisture, acquire oxygen and perform gaseous exchange. You also find that as soil depth increases so does its strength or compaction, making it harder for roots to elongate with new extension growth.

Root morphology differs from species to species and is largely dependent on the soil type and ground conditions, however the fine roots responsible for moisture and nutrient uptake can last anything from 10 days to over a year (Eissenstat and Yanai, 1997), with the tree producing new fine roots on a regular basis. The larger and more structural roots are a permanent feature of the tree and convey moisture and nutrients from the soil via the fine roots, into the trunk and canopy. The larger roots are of course responsible for the tree's stability as well as being areas of carbohydrate storage. Younger trees are more able to adapt to change and have more potential energy to explore alternative rooting environments whereas more mature trees are slower to react to a changing soil environment and are adapted to expend their energy on other important functions.

The National Geology of Britain Viewer advises that the local soil comprises of a shallow layer of chalky loam over a bedrock of Holywell nodular chalk formation and New Pit chalk formation (undifferentiated) – chalk, therefore the risk of soil compaction is considered tobe low- non-existent.

Root severance

As mentioned above, the roots are responsible for a number of functions including stability and the transport of water and nutrients. Studies have shown that trees can withstand and recover from the loss of a proportion of their root systems, especially where those roots have been removed in a single direction. This is pertinent to trees **T6, T8, T11** & **T12** whereit is expected that some minor roots will be encountered during excavation works.
However, where roots are encountered, a protocol for root pruning will be included within a detailed arboricultural method statement.

Importance of the static root plate

Trees have a static root plate, typically an area of structural roots in closer proximity to the tree's trunk, providing the majority of the tree's anchorage. The total spread of the tree's roots usually extends much further than the radius of the root plate which is generally in the range of 1.5 to 4 times the tree's trunk diameter. Mattheck and Breloer (The Body Language of Trees - A Handbook for Failure Analysis, HMSO,1994). With the exception of T6 off-site Ash, the subject trees are situated at a sufficient distance from the proposal to not impact upon their static root plates.

7. Arboricultural Method Statement (AMS)

The arboricultural method statement sets out a precautionary approach towards tree protection. Any operations including access, proposed within the RPA (or crown spread where this is greater) should be described within an arboricultural method statement, to demonstrate that the operations can be undertaken with minimal risk of adverse impact to retained trees.

A detailed method statement and tree protection plan will be provided once general agreement of the proposal has been agreed.

The methodology will include detailed information regarding but not restricted to the following operations-

Details of any access facilitation tree works and vegetation removal.
Erection of tree protective fencing and ground protection-Pre-demolition.
Demolition of the existing houses and any ancillary buildings.
Removal of any hard landscape structures within the RPA's of retained trees.
Details of the location of site welfare facilities, site office and material storage areas.
Erection of tree protective fencing post-demolition and prior to construction.
Details of all excavation works in proximity to the RPA's of retained trees including arboricultural supervision.
Details of the location and type of all services to be installed outside the RPA's of all retained trees.
Details of the construction of the access road where it extends within the RPA's of retained trees, including arboricultural supervision.
Details of any proposed landscaping works or level changes occurring within the RPA's of retained trees.
Details of staff induction, site monitoring and reporting to be carried out during key stages of construction within proximity to the RPA's of retained trees.

8. Conclusion

The proposal to demolish the existing house and replace with 4no. 3 bed terrace houses at 35 Crescent Road will require the removal of 4 individual trees and 2 groups of category C trees in order to carry out the proposed development, with a further 3 category C and 1 category U trees to be removed due to their poor quality and structural condition. It is proposed to plant a minimum of 11 replacement trees around the site's perimeters, with replacements being chosen for their visual and ecological benefits, as well as their tolerance to alkaline soils and projected temperature changes. I therefore suggest that this scheme should be considered as being arboriculturally acceptable.

9. Qualifications & Experience

I have been involved in the horticultural and arboricultural industries for over 30 years, firstly as a contractor and until recently, for the last fifteen years as a Local Authority tree officer and consultant. I hold the AA Tech cert arb, and ND Arb (RFS) as well as being a Lantra accredited Professional Tree Inspector. I am also a technical member of the Arboricultural Association and a professional member of the Consulting Arborists Society.

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Appendix 1: Tree Survey Schedule

Trees have been listed on the schedule with both their common and scientific names.

Tree height is normally measured and rounded up to the nearest metre for trees above 10 metres in height using a Haglof electronic clinometer.

Stem or trunk diameters were measured using a diameter tape in mm at 1.5 metres above ground where access allowed, otherwise diameters have been estimated.

Crown spread has been measured in metres from the trunk to the tips of the live lateral branches taken at the four-cardinal points N-E-S-W using a ground tape.

Age Class
Young - Trees in the first fifth of full life expectancy
Semi-mature - Trees in the second fifth of full life expectancy
Early-mature - Trees in the third fifth of full life expectancy
Mature - Trees in the fourth fifth of full life expectancy
Post-mature – Trees having reached full life expectancy and trees in natural decline
Veteran - Trees of interest biologically, culturally and aesthetically due to certain features and/or age.

ERCY-The estimated remaining contribution in years calculated considering the tree's species, location, current age and physiological and structural condition at the time of the survey.

BS5837 Survey Data

Ref.	Species	Measurements	General Observations	Category	Recommendations
G001	Sycamore (Acer pseudoplatanus) Common Beech (Fagus sylvatica) Hazel (Corylus avellana) Blackthorn (Prunus spinosa)	Height (m): 8 4 stems, avg.(mm): 150 Life Stage: Semi Mature Rem. Contrib.: 40+ Years	Mixed self-set group of young-semi-mature trees comprising Sycamore, Beech, Hazel, Blackthorn etc.	C2 RPA Area: 72 sq m, plus a 1m buffer.	Remove to facilitate development.
G002	Cotoneaster x2 (Cotoneaster sp.) Buddleia x2 (Buddleia sp.) Hazel (Corylus avellana) Common Beech (Fagus sylvatica)	Height (m): 5 6 stems Life Stage: Early Mature Rem. Contrib.: 20+ Years	Mixed small tree and shrub group, comprising Cotoneaster, Buddleia, Hazel, Beech, Forsythia etc.	C2 RPA Area: 37 sq m, plus a 1m buffer.	Remove to facilitate proposed development.
G003	Common Ash (Fraxinus excelsior) Sycamore (Acer pseudoplatanus) Common Beech (Fagus sylvatica)	Height (m): 8 3 stems, avg.(mm): 150 Life Stage: Semi Mature Rem. Contrib.: 20+ Years	Mixed linear group of young-semi mature self-set trees.	C2 RPA Area: 22 sq m, plus a 1m buffer.	Linear group of mainly Sycamore growing between garage and neighbouring property. Trees have previously been heavily reduced, now exhibiting vigorous regrowth.

Ref.	Species	Measurements	General Observations	Category	Recommendations
T004	Common Ash (Fraxinus excelsior)	Height (m): 10 Stem Diam (mm): 270 Spread (m): 3N, 3E, 3S, 3W Crown Clearance (m): 4 Life Stage: Semi Mature Rem. Contrib.: 20+ Years	Ivy-clad tree growing amongst clump of Beech, Privet and Holly.	C2 RPA Radius: 3.2m. Area: 32 sq m.	
T005	Sycamore (Acer pseudoplatanus)	Height (m): 11 Stem Diam (mm): 300 Spread (m): 3N, 3E, 3S, 2.5W Life Stage: Early Mature Rem. Contrib.: 20+ Years	Ivy-clad, previously topped unremarkable tree growing on site perimeter.	C2 RPA Radius: 3.6m. Area: 41 sq m.	
T006	Common Ash (Fraxinus excelsior)	Height (m): 17 Stem Diam (mm): 420 Spread (m): 6N, 7E, 7S, 6W Crown Clearance (m): 4.5 Life Stage: Early Mature Rem. Contrib.: 20+ Years	Off-site tree, two co-dominant stems from 5m. Grows on bank just off-site.	B2 RPA Radius: 5.0m. Area: 79 sq m.	
T007	Sycamore (Acer pseudoplatanus)	Height (m): 7 2 stems, diam(mm): 140, 120 Spread (m): 4N, 4E, 1S, 3W Life Stage: Semi Mature Rem. Contrib.: 20+ Years	Ivy-clad tree of poor form.	C2 RPA Radius: 2.2m. Area: 15 sq m.	
T008	Common Lime (Tilia x vulgaris)	Height (m): 16 2 stems, diam(mm): 260, 300 Spread (m): 4N, 5E, 5S, 4W Crown Clearance (m): 5 Life Stage: Early Mature Rem. Contrib.: 40+ Years	Off-site tree heavily reduced in both height and spread, exhibiting moderately vigorous regrowth.	B2 RPA Radius: 4.8m. Area: 72 sq m.	
T009	Cultivar Apple (Malus domestica)	Height (m): 8 Stem Diam (mm): 290 Spread (m): 4N, 3E, 5S, 5W Life Stage: Mature Rem. Contrib.: 20+ Years	Unremarkable medium sized garden apple tree.	C2 RPA Radius: 3.5m. Area: 38 sq m.	

Ref.	Species	Measurements	General Observations	Category	Recommendations
T010	Common Lime (Tilia x vulgaris)	Height (m): 19 Stem Diam (mm): 750 Spread (m): 6N, 7E, 7S, 3W Life Stage: Mature Rem. Contrib.: 20+ Years	Off-site tree, 2 stems from 2m, front stem in a state of decline following historic storm damage, rear stem previously heavily reduced with poor regrowth.	C2 RPA Radius: 9.0m. Area: 254 sq m.	
T011	Common Ash (Fraxinus excelsior)	Height (m): 17 Stem Diam (mm): 250 Spread (m): 5N, 5E, 3S, 2W Life Stage: Semi Mature Rem. Contrib.: 20+ Years	Off-site, unremarkable Ivy-clad tree.	C2 RPA Radius: 3.0m. Area: 28 sq m.	
T012	Common Ash (Fraxinus excelsior)	Height (m): 19 Stem Diam (mm): 510 Spread (m): 7N, 7E, 6S, 7W Life Stage: Early Mature Rem. Contrib.: 20+ Years	Off-site Ivy-clad tree of moderate quality.	B2 RPA Radius: 6.1m. Area: 117 sq m.	
T013	Purple Cherry Plum (Prunus cerasifera 'Pissardi')	Height (m): 4 Stem Diam (mm): 200 Spread (m): 2N, 2.5E, 4S, 2W Life Stage: Mature Rem. Contrib.: 10+ Years	Spreading, poor quality under storey tree.	C2 RPA Radius: 2.4m. Area: 18 sq m.	Remove to facilitate development.
T014	Sycamore (Acer pseudoplatanus)	Height (m): 10 Stem Diam (mm): 210 Spread (m): 4N, 4E, 2S, 1W Life Stage: Semi Mature Rem. Contrib.: 20+ Years	Boundary tree suppressed by oversailing Sycamore.	C2 RPA Radius: 2.5m. Area: 20 sq m.	Remove to facilitate development.
T015	Purple Cherry Plum (Prunus cerasifera 'Pissardi')	Height (m): 4.5 Stem Diam (mm): 200 Spread (m): 3N, 4E, 4S, 3W Life Stage: Mature Rem. Contrib.: 10+ Years	Spreading, poor quality under storey tree.	C2 RPA Radius: 2.4m. Area: 18 sq m.	Remove to facilitate development.
T016	European Larch (Larix decidua)	Height (m): 16 Stem Diam (mm): 530 Spread (m): 5N, 5E, 5S, 5W Life Stage: Mature Rem. Contrib.: <10 years	Large tree in latter stages of decline.	U RPA None - due to Retention Category of U.	Remove due to declining condition.

Ref.	Species	Measurements	General Observations	Category	Recommendations
T017	Laurel Cherry (Prunus laurocerasus)	Height (m): 5 Stem Diam (mm): 200 Spread (m): 2N, 2E, 2S, 2W Life Stage: Mature Rem. Contrib.: 20+ Years	Unremarkable large shrub.	C2 RPA Radius: 2.4m. Area: 18 sq m.	Remove to facilitate development.
T018	Bay Tree (Laurus nobilis)	Height (m): 8 Stem Diam (mm): 300 Spread (m): 3.5N, 3E, 1S, 3W Life Stage: Mature Rem. Contrib.: 20+ Years	Off-site asymmetric tree growing in close proximity to the north-west flank wall of the application site.	B1 RPA Radius: 3.6m. Area: 41 sq m.	
T019	English Yew (Taxus baccata)	Height (m): 4 Stem Diam (mm): 200 Spread (m): 3.5N, 2E, 1S, 2W Life Stage: Early Mature Rem. Contrib.: 40+ Years	Part of evergreen group of 3 relatively unremarkable trees.	C2 RPA Radius: 2.4m. Area: 18 sq m.	Remove to facilitate development.
T020	Western Red Cedar (Thuja plicata)	Height (m): 5.5 2 stems, diam(mm): 260, 170 Spread (m): 2N, 2E, 2S, 2W Life Stage: Mature Rem. Contrib.: 20+ Years	largest component of evergreen group of 3 relatively unremarkable trees.	C2 RPA Radius: 3.7m. Area: 43 sq m.	Remove to facilitate development.
T021	Lawson Cypress (Chamaecyparis lawsoniana)	Height (m): 2 Stem Diam (mm): 120 Spread (m): 1N, 1E, 1S, 1W Life Stage: Mature Rem. Contrib.: 10+ Years	Part of evergreen group of 3 relatively unremarkable trees.	C2 RPA Radius: 1.4m. Area: 6 sq m.	Remove to facilitate development.

Appendix 2: Tree Survey Plan

General Notes

Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
No liability of any kind is accepted for any omissions or inaccuracies in respect of this plan.
The original of this drawing was produced in colour, a monochrome copy should not be relied upon.

T018-B1
T012-B2
T011-C2
T014-C2
T013-C2
T015-C2
T017-C2
T016-U
T010-C2
T009-C2
T019-C2
T020-C2
T021-C2
T008-B2
T007-C2
T006-B2
T005-C2
T004-C2
G001-C2
G002-C2
G003-C2

T10 root protection area has been shown as a modified polygon to take level changes and below ground constraints into consideration.

T4-T6 root protection areas have been shown as modified polygons to take level changes and below ground constraints into consideration.

Key

Trees
Showing Canopy extents, category colour and tag number (with category).
T1-B

Category A
Trees of high quality with an estimated remaining life expectancy of at least 40 years.

Category B
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

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 150 mm.

Category U
Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.

Tree Groups
Shown as dashed centre/boundary line. Colour represents category (see above)

BS 5837:2012 Root Protection Area

N

1:200
0 8m

Drawing Title: **Tree Constraints Plan**			
Client: Calm Homes Ltd			
Site/Project: 35 Crescent Road, Caterham, CR3 6LE.			
Scale/Sheet: 1:200 - A3	Date: 08/03/2022		
Drawing No: UA/TCP/1	Rev: 1	Drawn By: CS	Chked By: LU

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Appendix 3: Arboricultural Impact Plan

General Notes
Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
No liability of any kind Is accepted for any omissions or inaccuracies in respect of this plan.
The original of this drawing was produced in colour; a monochrome copy should not be relied upon.

Key

- **Trees** (T1-B) — Showing Canopy extents, category colour and tag number (with category).
- **Category A** — Trees of high quality with an estimated remaining life expectancy of at least 40 years.
- **Category B** — Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
- **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 150 mm.
- **Category U** — Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.
- **Tree Groups** — Shown as dashed centre/boundary line. Colour represents category (see above)
- **BS 5837:2012 Root Protection Area**
- **Trees & Tree Groups for Removal**

N

1:200
0 8m

Drawing Title: **Arboricultural Implication Plan**			
Client: Calm Homes Ltd			
Site/Project: 35 Crescent Road, Caterham, CR3 6LE.			
Scale/Sheet: 1:200 - A3	Date: 11/03/2024		
Drawing No: UA/AIP/1	Rev: 2	Drawn By: CS	Chked By: LU

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