



9 Nestles Avenue, Hayes, UB3 4SA
Arboricultural Impact Assessment
Report for Healey Development Solutions
(Hayes) Ltd

Job Number	ART2240		
Author	Nicholas Jones BSc (Hons) MSc MArborA		
Version	Checked by	Approved by	Date
V2.0	Naomi Charman BSc (Hons) MRes MArborA	Fearghus Gage BSc (Hons) TechArborA	28/07/20

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Executive Summary

Arbeco Ltd was commissioned by Healey Development Solutions (Hayes) Ltd to undertake a ground level survey of trees and to produce an Arboricultural Impact Assessment for future works associated with the development of land at 9 Nestles Avenue, Hayes. A qualitative assessment of each tree was carried out according to British Standard BS 5837:2012, Trees in Relation to Design, Demolition and Construction– Recommendations, focusing on arboricultural values (categories A1, B1, C1)¹, landscape values (categories A2, B2, C2) and cultural values (A3, B3, C3)².

The main findings of the survey are as follows:

- There were 8 individual trees, one group³ and four hedgerows in and adjacent to the proposed development site each described in Appendix 1 of this report.
- Of the trees surveyed, two individuals were attributed Category B status, six individuals, one group and four hedges were attributed Category C status.
- A tree constraints check was carried out with the London Borough of Hillingdon and it was confirmed that no trees located within the proposed development site were subject to a Tree Preservation Order, however the eastern boundary of the site was subject to the Nestles Conservation Area (affecting common lime T8).
- Root protection areas were calculated in accordance with BS 5837:2012 for each of the surveyed trees and ranged from 2.2m² to 72.4m² for H1 and T8 respectively.
- Of the trees surveyed, a total of seven individuals, one group and four hedges will require removal to facilitate development.
- Any work to trees should consider the potential presence of protected species, including breeding birds and roosting bats. The Preliminary Ecological Appraisal (The Ecology Consultancy, 2020) and any subsequent ecological reports should be consulted prior to the commencement of works.

¹ Categorisation grading in accordance with BS 5837 2012. Trees suitable for retention: - 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 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 150mm.

Category U. Trees of very low quality normally with a life expectancy of less than 10 years or requiring immediate removal due to health and safety concerns.

² British Standard BS 5837 2012 recommends that these categories may be further broken down into sub categories A1 A2 A3 pertaining to Arboricultural, Landscape or Cultural values respectively.

³ The term “group” is intended to identify trees that form cohesive arboricultural features either aerodynamically (e.g. trees that provide companion shelter), visually (e.g. avenues or screens) or culturally, including for biodiversity (e.g. parkland or wood pasture).

1 Introduction

BACKGROUND

- 1.1 Arbeco Ltd was commissioned on 8 July 2020 by Healey Development Solutions (Hayes) Ltd to carry out an arboricultural survey of trees at 9 Nestles Avenue and provide a report to inform future design proposals and tree protection. The survey is required to assess the condition of trees that could be affected by future development of the site and provide sufficient information for the development of site layouts and construction exclusion zones to enable the protection of existing trees.

SCOPE OF REPORT

- 1.2 This report has been produced in accordance with British Standard BS 5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations (hereafter referred to as BS 5837:2012). It provides information on the current condition of trees at the site, their suitability for retention, and the above and below ground constraints to development.
- 1.3 Any clear flaws or hazards have been identified in the Schedule of Trees provided in Appendix 1. Preliminary recommendations for the management of retained trees are provided, but a full hazard risk assessment comprising a more comprehensive analysis of tree condition and potential risk to target areas is beyond the scope of this report. Any recommendations relating to the management of potentially hazardous trees should be carried out as soon as possible⁴.

SITE CONTEXT AND STATUS

- 1.4 The site is situated in the London Borough of Hillingdon approximately 220m south-east of Hayes and Harlington Railway Station and 910m north of the M4 motorway. The site comprises an old warehouse building with an area of hardstanding to the south and measures 0.2ha in extent. The northern and western boundaries of the site are formed by commercial properties, with the Nestles Conservation Area located immediately to

⁴ All tree works should be undertaken by a suitably qualified Arboricultural Contractor. No arboricultural works to trees subject to planning constraints shall be carried out without the written consent of the relevant Local Planning Authority (LPA). Any proposed tree works should be undertaken in accordance with British Standard BS 3998:2010 Tree work - Recommendations. Works to trees that are the subject of a Tree Preservation Order or within a Conservation Area which are deemed to be dangerous under Regulation 14 of the Town and Country Planning (England) (Regulations) 2012 may under certain circumstances be undertaken without needing to seek the prior written consent of the LPA.

the south east of the site, Nestles Avenue to the south and an area of scattered trees and scrub to the east. The Ordnance Survey National Grid reference for the centre of the site is TQ 09851 79228.

DESCRIPTION OF THE PROPOSALS

- 1.5 The proposal comprises the demolition of the existing building, followed by the redevelopment of the site to provide 103 residential units contained within an 11 storey building with associated landscaping, access, car parking and cycles parking.

2 Methodology

TREE SURVEY

- 2.1 The tree survey was conducted in accordance with BS 5837:2012 the results of which are presented in the Schedule of Trees (Appendix 1) and include a sequential numbering of each tree, species listed by common name; tree dimensions including overall height, canopy spreads measured against the cardinal compass points; crown height; age class; physiological condition; structural condition, life expectancy; root protection areas and preliminary management advice.
- 2.2 Each tree has been assigned a category grade in accordance with BS 5837:2012 categories A, B, C and U ranging from high to low quality. Definitions of tree quality are provided in Table 2 Appendix 1.
- 2.3 For the purposes of this report, arboricultural as well as landscape sub-categories have been used in the Schedule of Trees. BS 5837:2012 points out that each sub-category should be given equal weighting when grading trees against these criteria.
- 2.4 A tree constraints plan is presented in Appendix 2 showing the recommended root protection areas (RPA) for all surveyed trees and highlighting each grading category using the colour key system as described in BS 5837:2012.
- 2.5 The site was visited on 16 July 2020, weather conditions were dry and sunny.
- 2.6 All trees likely to be affected by works inside the red line boundary of the site were visually assessed using the Visual Tree Assessment Method (VTA) (Mattheck and Breloer, 1994).
- 2.7 Stem diameters were measured using diameter tape. Canopy spreads were measured using a laser range finder. Height measurements were taken using a Suunto clinometer.
- 2.8 Formal assessments of topography, drainage, service conduits and soil conditions including specific laboratory investigations of soil properties (i.e. plasticity index, moisture content, suction pressure) were not undertaken and are beyond the scope of this report.

DESK STUDY

- 2.9 A tree constraints check was undertaken using the London Borough of Hillingdon online mapping system to search for Tree Preservation Order or Conservation Area restrictions to tree works in and adjacent to the site.

SUPPORTING DOCUMENTS

- 2.10 Drawing Reference: *30977_T Topographical Survey* (Greenhatch Group, 2020) and *Ground Floor Plan – Opt A 15406 A-(03)-100A 03* (Tate Hindle, 2020) were provided for the purposes of compiling this report. They include the layout of existing site features, along with a footprint overlay of the proposed development.

PERSONNEL

- 2.11 The tree survey was carried out by Nicholas Jones BSc (Hons). MSc. M Arbor A, an Associate Arboricultural Consultant with over 30 years' experience in the arboricultural sector. Nicholas has experience in providing professional expert arboricultural advice and recommendations in relation to trees and development. Nicholas holds professional memberships of the Arboricultural Association, the International Society of Arboriculture and the Consulting Arborist Society, as well as gaining an MSc in Arboriculture and Urban Forestry along with a BSc (Hons) Degree in Arboriculture awarded by the University of Central Lancashire.

LIMITATIONS

- 2.12 Only preliminary recommendations for tree management are provided. A full hazard risk assessment comprising a more comprehensive analysis of the condition and potential risk to target areas is beyond the scope of this report.
- 2.13 The trees were inspected at ground level and no decay detection equipment was used. There is therefore a risk that any internal decay that may be present has gone undetected.
- 2.14 Tree T8 was situated in an area where access to the main stem was not possible. As such, assumptions have been made relating to dimensions of the main stem, and the overall condition is based upon the visible parts of the tree only.
- 2.15 Trees are living organisms and their health and condition change with time. Therefore, this assessment remains valid for 12 months from the date of inspection, or until a severe storm is experienced, after which time a new inspection is required. For the purpose of this report, a severe storm is defined as a period of violent weather, involving

rain, hail, wind, snow, lightning or any combination of these, likely to cause damage to trees.

3 Results

TREE SURVEY

- 3.1 The results of the tree survey are provided in the Schedule of Trees in Appendix 1. A Tree Constraints Plan illustrating the BS 5837:2012 categories of each tree, their crown spread, and RPA is presented in Appendix 2 and photographs of the site are provided in Appendix 5.
- 3.2 The survey recorded eight individual trees, four hedgerows and one group which could potentially be affected by future development. These comprised: callery pear *Pyrus calleryana* 'Chanticleer', cherry laurel *prunus laurocerasus*, common lime *Tilia x europaea*, European hornbeam *Carpinus betulus*, and Norway maple *Acer platanoides*.
- 3.3 A total of one group and three hedgerows comprised mixed species as described in the Schedule of Trees displayed in Appendix 1.
- 3.4 The distribution of each species is provided in Table 1 below.

Table 1: Species key and site frequency for trees potentially affected by development

Species	Frequency		
	Tree	Group	Hedgerow
Cherry laurel	-	-	1
Common lime	1	-	-
European hornbeam	1	-	-
Callery pear	5	-	-
Mixed species	-	1	3
Norway maple	1	-	-

- 3.5 Physiological and structural condition⁵ of the majority of surveyed trees was consistent with Category C status (six individuals, four hedgerows and one group), with two individual assigned Category B status.
- 3.6 Of the trees surveyed, two individuals were classified to be at a mature life stage⁶, four individuals and one hedgerow were classified as semi mature and four individuals, one group and three hedgerows were classified as early mature. No trees were found to be in the over mature classification.
- 3.7 A summary of the number of trees surveyed corresponding to BS 5837:2012 tree quality assessment definitions is provided below in Table 2 below.

Table 2: Grade Classifications

BS 5837:2012 Grades A to U	Trees attributed to each grade	Frequency		
		T	G	H
B	T6 & T8	2	-	-
C	T1, T2, T3, T4, T5, T7, H1, H2, H3, H4 & G1	6	1	4

- 3.8 Trees T6 and T8 should be given priority consideration for retention during any future development which should take full account of above and below ground constraints, as shown in the Tree Constraints Plan (Appendix 2).
- 3.9 A summary of the condition and value of the most noteworthy trees is provided below, based on information presented in Appendix 1.
- Norway maple T6, was situated off site adjacent to the southern boundary on the footpath. The tree was mature, 7.5m in height, had a single stem and canopy radius of 5m in all directions. The tree appeared in fair structural and physiological

⁵ Physiological and structural condition are terms used to differentiate between a trees physiological condition i.e. annual growth, vigour, presence of disease etc. as opposed to structural condition relating to branch formation, mechanical strength and integrity.

⁶ Young. Establishing; usually with good vigour, but as of limited significance within the landscape.
Semi-Mature. Established; normally vigorous and increasing in height. Of increasing landscape significance.
Early Mature. Fully established trees around the middle half of their life span retaining good vigour. Not yet achieved full height and retaining apical dominance.
Mature. Fully established trees retaining moderate vigour. Apical dominance lost but crown still spreading.
Over Mature. Fully mature trees in the last quarter of their usual life expectancy; vigour declining.

condition. Root activity was causing displacement of the adjacent footpath surfacing.

- Common lime T8, was situated off site, adjacent to the south east boundary and 15m south of the existing structure. The tree was mature, 12m in height, had a single stem and a maximum canopy radius of 5m in all directions. Access to the main stem was restricted however the tree appears in fair structural condition. Leaf colour, size and distribution indicated good vitality levels. The tree was situated inside the Nestles Conservation Area and within an ongoing development site. Reference to the submitted arboricultural details in relation to the adjacent development indicate that this tree has been recommended for pollarding.

DESK STUDY

- 3.10 A tree constraints check was carried out with London Borough of Hillingdon and it was confirmed that no trees surveyed had Tree Preservation Orders in place. However common lime T8, located off site to the east, was situated inside and subject to the constraints associated with the Nestles Conservation Area.

ARBORICULTURAL IMPACT ASSESSMENT

- 3.11 Based on Drawing Reference: 15406 A-(03)-100A 03 Ground Floor Plan – Opt A (Tate Hindle, 2020) received from the client on the 16 July 2020, the impact of the proposal on the existing trees has been assessed and all trees that will potentially be affected by the development are listed below in Table 3. Tree numbers in the table correspond to the Schedule of Trees in Appendix 1 and Tree Constraints Plan described in Appendix 2.
- 3.12 It has been assumed that the height of all construction traffic or goods vehicles accessing the site will be within the standard minimum carriageway clearance of 5.5m (HSE, 2017).

Table 3: Summary of trees possibly affected by the development

Impact	Reason	BS Cat B	BS Cat C
Trees to be removed	Located within development footprint.	T6	T1, T2, T3, T4, T5, T7, H1, H2, H3, H4 & G1
Trees which could sustain damage to RPA	Installation of hardstanding.	T8	-
	Soil compaction through construction traffic access	T8	-
Trees which could sustain damage to stem or canopy	Impact by construction traffic.	T8	-
Trees to be pruned	Access facilitation	T8	-

Tree removal and pruning

3.13 Based on the design proposal, a total of seven individual trees, four hedges and one group will require removal to facilitate development works.

3.14 Of the trees to be removed, one individual was attributed Category B status and seven individual trees, four hedges and one group were attributed Category C status.

Trees which could potentially sustain damage to stem, canopy or RPA.

3.15 Development proposals have the potential to indirectly impact the stem, canopy or RPA of one tree scheduled for retention as displayed in Table 3. In order to ensure that these features are successfully retained during the proposed works, the drafting of specialist tree protection measures as part of an Arboricultural Method Statement and Tree Protection Plan will be required.

Incursions into RPA of trees effected by the development proposal.

3.16 The proposed development will involve resurfacing work inside the RPA of one tree, T8, to be retained as displayed in Table 4.

Table 4: Proposed incursions in RPAs of trees to be retained.

Tree ID	Stem Diameter	Total RPA (m ²)	Area of incursion (m ²)	Area of Incursion (%)
T8	400	72.4	21.7	29.9

- 3.17 The level of incursion by the proposed new hardstanding inside the RPA of tree T8 and was calculated to be 29.9% as displayed in Table 4. The existing surface comprises asphalt, while it is likely that ground conditions beneath the existing hardstanding are unlikely to change as a result of the new surface, any excavations inside the RPA of T8 have the potential to cause significant damage to the structural and physiological condition of the tree. As such the drafting of specialist root protection measures as part of an Arboricultural Method Statement will be required to enable T8's satisfactory long-term retention.

Impact on visual amenity and local character

- 3.18 T1, T2, T3, T4, T5, T7, H1, H2, H3, H4 & G1 were attributed C status for their small size, low quality and minimal life expectancy. As such, their removal in order to facilitate access for construction is considered to be of low impact to public visual amenity. A scheme of soft landscaping has been submitted to address this minor loss to public visual amenity.
- 3.19 Trees T6 was attributed Category B status. A scheme of soft landscaping has been submitted to address the loss to public visual amenity.

4 Recommendations

SITE SPECIFIC ISSUES

- 4.1 Tree T6 is located within the public highway and will require the written consent of the local authority prior to any arboricultural works being undertaken on this tree.
- 4.2 Tree T8 is located within the neighbouring ongoing development site and inside the curtilage of the Nestles Avenue Conservation Area. Reference to the approved arboricultural information submitted in support of the approved development indicated that the tree is highlighted for pollarding. This would negate the need for any additional works associated with the proposed development. That notwithstanding, and in the absence of clearly defined works to implement a full planning permission, the proposed access facilitation pruning would require the submission of Section 211 Notification to the Local Planning Authority six weeks prior to the proposed pruning taking place.

TREE WORKS

- 4.3 The following tree pruning, and removal operations should be undertaken prior to the commencement of demolition works in order to facilitate access for demolition and construction operations.
- Trees T1, T2, T3, T4, T5, T6, T7, G1, H1, H2, H3 7 H4 require removal.
 - Tree T8 should have the lower lateral branches on the western side of the crown only, lifted to a height of 5.5m above ground level.
- 4.4 All tree works should give due consideration to the potential presence of protected species, including breeding birds and roosting bats. The Preliminary Ecological Appraisal (The Ecology Consultancy, 2020) and any subsequent ecological reports should be consulted prior to the commencement of works.
- 4.5 All tree pruning should be carefully planned and undertaken in accordance with *BS 3998: 2010 Recommendation for Tree Works*.

MITIGATION

- 4.6 A scheme of soft landscaping has been submitted, which includes tree planting details which address the potential loss of visual public amenity where tree removal has been found to be unavoidable. The tree selection should be appropriate to the site and

chosen from a species palette in accordance with local tree planting policies and in accordance with any recommendations provided in the PEA and any subsequent ecology reports.

- 4.7 The design of any new planting and landscaping proposals should be based upon a soil analysis which considers pH and any nutrient deficiencies, imbalances or contamination.
- 4.8 Often the need for future remedial pruning or tree removal can be avoided through careful species selection and planning during the design of the mitigation planting scheme.
- 4.9 The location of mitigation planting in relation to new or existing buildings should take full account of the final canopy height and spread of all trees included in the planting scheme. Buildings should ideally be located a sufficient distance from the predicted canopy line and RPA to avoid future pressure to undertake remedial pruning or tree removal.

ISSUES FOR THE ARBORICULTURAL METHOD STATEMENT

- 4.10 The positioning of new buildings has taken into consideration the maximum canopy height and width of all trees to be retained and are located outside their associated RPAs. The proposed development requires resurfacing of the existing tarmac areas within the RPAs of the retained trees, details of which should be presented in a future method statement.
- 4.11 Protective fencing should be installed in accordance with figure 2 of BS 5837:2012 to enable the safe retention of trees to be retained. The positioning of tree protection and the establishment of construction exclusion zones (CEZ) should initially be based upon the root protection areas as described in Appendix 1 and should be in place prior to the commencement of works.
- 4.12 All works should be undertaken from outside the RPA wherever possible. Where working in an RPA is unavoidable, ground protective measures fully compliant with section 6.2 of BS 5837: 2012 and agreed by the consulting arboriculturalist should be used.

4.13 Where construction of new buildings or hardstanding inside RPAs is likely to significantly impact a trees physiological or structural condition, specialist methods of construction should be developed and specified as part of the Arboricultural Method Statement.

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The Ecology Consultancy (2020) *7381.9 Preliminary Ecological Appraisal_9 Nestles Avenue*

Town and Country Planning Act 1990 (as amended).

Town and Country Planning (Tree Preservation) (England) Regulations 2012.

Appendix 1: Schedule of Trees

Table 1: Schedule of Trees and Tree Quality Assessment*

* See Table 3 for key to terms

** See Table 2 for definitions of categories

No	Species	Ht.	S	St. 1.5 m	Canopy Spread				Cr. CI	Ls	SC	PC	Comments /Observation	Preliminary Management Advice	LE	Cat **	RPA m ²	RPA r
					N	S	E	W										
T1	Callery pear	7.5	1	140	3	3	3	3	0	EM	Fair	fair	Base inaccessible.	None.	20-40	C1	8.9	1.7
T2	European hornbeam	9.5	1	160	1.5	1.5	1.5	1.5	0	SM	Fair	Fair	Base inaccessible.	None.	20-40	C1	11.6	1.9
T3	Callery pear	9	1	190	2	2	2	2	0	EM	Fair	Fair	Base inaccessible.	None.	20-40	C1	16.3	2.3
T4	Callery pear	6	1	100	1	1	1	1	1.5	SM	Fair	Fair	Supressed by tree T6.	None.	20-40	C1	4.5	1.2
T5	Callery pear	6	1	100	1	1	1	1	1.5	SM	Fair	Fair	Supressed by tree T6.	None.	20-40	C1	4.5	1.2
T6	Norway maple	7.5	1	350	5	5	5	5	3	M	Fair	Fair	Surface root activity lifting the adjacent public footpath.	None.	<40	B1	55.4	4.2
T7	Callery pear	8	1	160	2	2	2	2	2	EM	Fair	Fair	Unremarkable tree.	None.	20-40	C1	11.6	1.9
T8	Common lime	12	1	400	5	5	5	5	1	M	Fair	Fair	Located off site within the curtilage of the adjacent development.	None.	<40	B1	72.4	4.8
G1	Mixed species	8	1	100	1	1	1.5	1.5	0	EM	Fair	Fair	Mix of laurel and hornbeam.	None.	20-40	C2	12.9	1.2
H1	European hornbeam	4	1	70	1.5	1.5	1.5	1.5	0	EM	Fair	Fair	Located on the western boundary.	None.	20-40	C2	32.0	0.8

Table 1: Schedule of Trees and Tree Quality Assessment*

* See Table 3 for key to terms
 ** See Table 2 for definitions of categories

No	Species	Ht.	S	St. 1.5 m	Canopy Spread				Cr. CI	Ls	SC	PC	Comments /Observation	Preliminary Management Advice	LE	Cat **	RPA m ²	RPA r
					N	S	E	W										
H2	Mixed species	3	1	70	2	2	2	2	0	EM	Fair	Fair	Mix of laurel and hornbeam.	None.	20-40	C2	19.0	0.8
H3	Mixed species	2.5	1	70	0.5	0.5	0.5	0.5	0	SM	Fair	Fair	Mix of hornbeam and holly.	None.	20-40	C2	1.6	0.8
H4	Mixed species	2.5	1	70	0.5	0.5	0.5	0.5	0	EM	Fair	Fair	Mix of laurel and hornbeam.	None.	20-40	C2	15.6	0.8

Table 2: BS: 5837 2012 Tree Quality Assessment Definitions

TREES FOR REMOVAL		
Category & Definition	Criteria	Identification on Plan
Category U Those in such a condition that they cannot realistically be retained as a living tree 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 U category trees (i.e. Where for whatever reason the loss of companion shelter cannot be mitigated by pruning) - Trees that are dead or are showing signs of significant immediate or irreversible overall decline. - Trees infected with pathogens of significance to the health and or safety of other trees nearby by or very low quality trees suppressing adjacent trees of better quality.	RED

TREES TO BE CONSIDERED FOR RETENTION				
Category & Identification	1 Mainly arboricultural values	2 Mainly landscape values	3 Mainly cultural values including conservation	Identification on plan
Category A Trees of High Quality with an estimated remaining life expectancy of at least 40 years	Trees that are a particularly good example of their species, especially if rare or unusual, or essential components of groups or of formal or semi-formal arboricultural features e.g. the dominant and/or principal trees in an avenue)	Tree groups or woodlands of particular visual importance as arboricultural and/or landscape features.	Tree groups or woodlands of significant conservation historical, commemorative or other value (e.g. veteran trees or wood pasture)	GREEN
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.	Trees that might be included in the high category but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage).	Trees present in numbers, usually 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 visual contribution to the wider locality.	Trees with material conservation or other cultural benefits.	BLUE

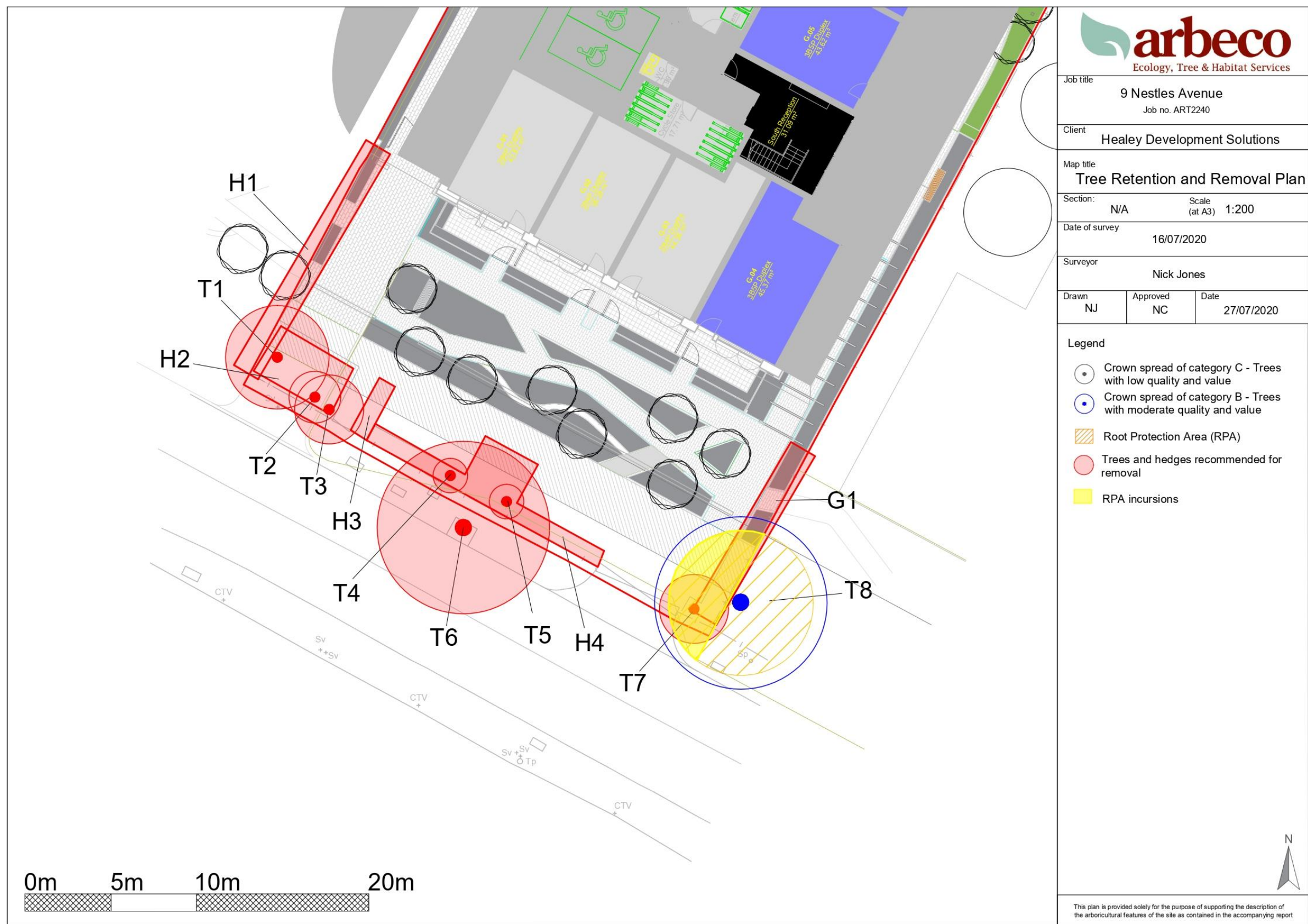
TREES TO BE CONSIDERED FOR RETENTION				
Category & Identification	1 Mainly arboricultural values	2 Mainly landscape values	3 Mainly cultural values including conservation	Identification on plan
Category C Trees of a low quality with an estimated remaining life expectancy of at least 10 years or young 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 landscape value and/or trees offering low or only temporary/transient landscape benefits.	Trees with no material conservation or other cultural benefits.	GREY

Table 3: Key Schedule of Trees

Column Heading	Explanation
Tree No	Sequential number corresponding to number on plan.
Species	English names.
Ht.	Height in metres.
S	Number of main stems.
St. 1.5 (Stem Diameter)	Stem diameter when measured in accordance with Annex C of BS 5837:2012.
NSEW	Crown radius in metres to cardinal points of the compass.
Cr. Cl. (Crown Clearance)	Height in metres between the ground and underside of canopy.
Ls.	Life stage definitions. Y= Young. SM = Semi-mature. EM = Early mature. M = Mature. OM = Over mature.
SC	Brief description of structural condition.
PC	Brief description of physiological condition.
Preliminary Advice	Preliminary tree works advice and recommendations.
LE	Estimated remaining useful life contribution in years. <10, 10+, 20+ and 40+ yr.
Cat. (Category)	Categorisation grading in accordance with BS 5837 2012. Trees suitable for retention: - Category A trees of high quality and amenity value. Category B trees of moderate quality and amenity value. Category C trees of low quality or amenity value. British Standards BS 5837:2012 recommends that these categories may be further broken down into sub-categories A1 A2 A3 pertaining to Arboricultural, Landscape or Cultural values respectively.
RPA m²	Root Protection Area (RPA). Indicative area around a tree measured in m ² and calculated in accordance with Annex C of BS 5837:2012 deemed to contain sufficient rooting volume to maintain the viability of a tree and where the protection of roots and soil structure is treated as a priority.
RPA r	Root Protection Area (RPA) radius calculation centred on the base of the tree and calculated in accordance with Annex C of BS 5837:2012

Appendix 2: Tree Constraints Plan

Appendix 3: Tree Retention and Removal Plan



Appendix 4: Glossary of Terms

Glossary of Terms

Term	Explanation
Arboricultural Impact Assessment (AIA)	Evaluation of direct and indirect effects of a proposed design and/or construction.
Arboricultural Method Statement (AMS)	Methodology for the implementation of any aspect of development that is in the root protection area or has the potential to result in the loss of or damage to a tree to be retained.
Branch structure	Qualitative description of formation of main framework of limbs and branches.
Canopy face	Orientation of canopy relative to cardinal points of the compass
Canopy radius	A measurement taken from the centre of a tree to the furthest radial extension of tree canopy relative to the cardinal points of the compass.
Competent Person	Person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task being approached.
Conservation Area	Local Planning Authority special designation generally prohibiting tree works without 6 weeks prior written notification.
Construction Exclusion Zone (CEZ)	Area based upon the calculated root protection area prohibiting access.
Cavity	Open and exposed aperture where wood tissue has internally degraded.
Constraints check	Formal search of local authority records to determine legal and statutory constraints on tree works.
Crown lifting	Removal of lower branches to achieve a stated vertical clearance above ground level or other surface.
Crown reduction	Pruning of a trees canopy in both height and width.
Decay	Deterioration and breakdown of tree wood fibres resulting in structural and/or physiological dysfunction of a tree.
Dieback	Continual decline and death of wood tissue including twigs and branches.
Failure	Description of structural failure or wood fibres including fracture of branches, limbs and main stems.
Fork	Area or point of union between one or more limbs or branches.
Hazard Risk Assessment	Qualitative and quantitative appraisal of the potential for tree failure and the possible risk of harm or damage to persons or property.
Local Planning Authority	Body responsible for the administration of Statutory duties relating to Development Management.
Multi-stem	A single tree formed from 2 or more codominant main stems
Occlusion	Wood development enclosing an extant wound or pruning cut.
Pruning	The targeted removal of branches or limbs using saws or other tools.

Glossary of Terms

Term	Explanation
Physiological Condition	Observation relating to a trees physiology for example vigour, leaf area, growth rate, the presence of pests or disease.
Root Protection Area	Root Protection Area (RPA). Indicative area around a tree deemed to contain sufficient rooting volume to maintain the viability of a tree.
Shelter belt	A wind break normally made up of one or more trees planted in such a way to provide cover from the wind.
Structural Condition	Observation relating to a trees structural integrity and the presence of any physical defects.
Suppressed	Where a trees development has been influenced or effected by the presence of competing vegetation.
Tree Constraints Plan	A scaled plan indicating above and below ground constraints relating to the protection of trees
Tree Preservation Order	A legal order made by the local planning authority protecting specific trees in the interests of amenity.
Visual Tree Assessment (VTA)	A method of assessment based upon the research developed to recognise dynamic responses of a tree to its surroundings.
'V' Shaped Branch Union	The union point between two branches that have grown at a tight angle, forming the 'V' shape. This structure is inherently weaker than the 'U' shaped union.
'U' Shaped Branch Union	The union point between two branches that have grown at a wider angle, forming the 'U' shape. This structure is considered to be the strongest and most optimised shape that a union can form.

Appendix 5: Photographs

Photograph 1

View looking north east towards the trees fronting Nestles Avenue



Photograph 2

View looking north west to tree T6



Photograph 3

View north west to tree T8 and G1





Ecology, Tree & Habitat Services

Monitoring and Maintaining the Natural Environments

Sussex- 3 Upper Stalls, Iford, Lewes, East Sussex, BN7 3EJ
T. 01273 911180 E. enquiries@arbeco.co.uk W. www.arbeco.co.uk

London- Tempus Wharf, 33a Bermondsey Wall West, London, SE16 4YQ
T. 02070 467184 E. enquiries@arbeco.co.uk W. www.arbeco.co.uk

Devon- 3 Drakes Cottages, Milton Combe, Yelverton, Devon, PL20 6HB
T. 01822 855196 E. enquiries@arbeco.co.uk W. www.arbeco.co.uk

