

TPS

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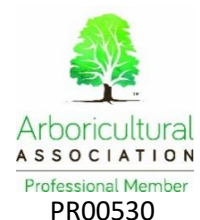
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Arboricultural Impact Assessment  
and  
Method Statements

For

Land at 3 Loom Place, Radlett, Hertfordshire

<b>Date</b>	6 <sup>th</sup> July 2023
<b>Client</b>	Haverstock
<b>Report by</b>	Mr James Choat BSc, M Arbor A
<b>Site</b>	3 Loom Place
<b>Reference No.</b>	TPSQU0079
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## 1. Summary

- 1.1.1 Tree Planning Solutions received instruction from Haverstock to complete a suitable arboricultural site survey and produce this subsequent arboricultural impact assessment (AIA) for an area of land at 3 Loom Place, Radlett, Hertfordshire.
- 1.1.2 Trees are a material consideration during the planning application process and require specialist input at the design stage to ensure the success for the end use of the proposed development whilst retaining the best tree specimens. Generally, local authorities provide local plan policies for planning applicants with regards to the suitable retention and protection criteria for trees during the application process and subsequent construction phase, and the level of detail that will be required to determine the application - details can be found on the local authority web site. Central government provide 'The National Planning Policy Framework' (NPPF 2021), which provides specific details of application acceptability; specifically paragraphs 131 and 179 relate to tree retention, biodiversity, habitat including trees and woodlands. Consultants providing arboricultural impact assessment (AIA) apply British Standard 5837 2012 criteria to demonstrate the suitable retention, design and protection of trees during the application / design process. The completed assessment forms part of the application detail and will aid the Planning Authorities decision with regard to the impact of the proposed development on the existing tree stock and local landscape character.
- 1.1.3 The survey and this report are provided in support of a planning application for the demolition of the existing dwelling and construction of 2 dwellings with parking.
- 1.1.4 The site was surveyed on the 22nd June 2023, the weather was dry, sunny with a light wind, conditions for surveying trees were good. 21 individual trees, 4 tree groups and 2 hedgerows were surveyed as part of the assessment for trees that could be affected either directly or indirectly by the construction of the proposed development.
- 1.1.5 The report provides the following information and data in accordance with the criteria provided within BS 5837 2012 '*Trees in relation to design, demolition and construction Recommendations*'.

- Tree survey and schedule
- Tree constraints data and plan
- Arboricultural Impact Assessment
- Arboricultural Method Statement and Tree Protection Plan

1.1.6 This report pays particular reference to:

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>▪ British Standard 5837 2012</li> <li>▪ British Standard 3998 2010</li> <li>▪ NHBC CH 4.2</li> <li>▪ NJUG 4</li> <li>▪ NPPF 2021</li> </ul> | <ul style="list-style-type: none"> <li>Trees in relation to design, demolition and construction Recommendations</li> <li>Recommendations for tree work</li> <li>Building near trees</li> <li>National Joint Utilities Group ‘Working Near Trees’</li> <li>National Planning Policy Framework</li> </ul> |
|--|---|

## 1.2 Statutory protection

1.2.1 Hertsmere Borough Councils planning constraints GIS data was checked 18/06/23 the site is not situated within a designated conservation area (CA) and is not subject to a tree preservation order (TPO). The hedgerows at the site are not subject to the hedgerow regulations 1997 as they are not situated on land registered for agricultural use, the keeping of horses, common land or land situated within a site of special scientific interest, special area for conservation and special protection area. It is recommended the applicant obtain written consent from Hertsmere Borough Council and where applicable the Forestry Commission, before carrying out recommendations contained within this report. Furthermore, no works should be carried out to any 3<sup>rd</sup> party tree(s) without first obtaining consent from the owner(s) of the tree(s).

1.2.2 Multi agency nature on the map GIS data (MAGIC) was checked 18/06/23, specifically data sets that affect trees – habitats (woodlands) and land designations. The site is subject to site of special scientific interest (SSSI) impact zone – (Bricket Wood Common).

### 1.3 Limitations

1.3.1 The applicant has supplied a plan of the existing and proposed (desired) site, no further information has been provided.

The following plans have been provided with the instruction for this report:

- Existing layout drawing provided by Haverstock
- Proposed layout/concept drawing provided by Haverstock

1.3.2 This survey is for the purpose of determining the impact of the development upon existing trees; it is not a detailed tree condition survey and should not be used as such. All trees have been assessed from ground level; no aerial or below ground parts have been inspected in detail.

1.3.3 The survey remains valid for 12 months. If during 12 months following the tree survey adverse weather conditions have occurred, or the site environment changed in any form, it is recommended the trees be reassessed.

1.3.4 The content of this report remains the property of Tree Planning Solutions unless otherwise stated. This report is not to be copied without written consent from Tree Planning Solutions.

1.3.5 The consultant is a qualified arboriculturist, occasionally opinions and views are provided regarding buildings and structures, the consultant is not a qualified buildings surveyor or structural engineer and therefore all opinions and views should be supported by a qualified structural/building engineer.

## 1.4 Qualifications

1.4.1 The consultant has been working within the Arboricultural industry for 24 years as a tree surgeon, tree officer and consultant. Knowledge and experience are regularly updated by attending industry related seminars and courses. Continued professional development is verified by professional membership to the Arboricultural Association (membership No. PR00530), CPD is updated on-line, a record can be provided upon request.

1.4.2 The consultant holds a Bachelor of Science (BSc) degree in Rural Resource Development, a Higher National Diploma (HND) in Rural Resource Management, the Lantra Professional Tree Inspection Award, the RFS Level 2 Certificate in Arboriculture, Level 3 certificate in Ecology and is a registered user of Quantified Tree Risk Assessment (QTRA).

## **2.1 The site**

## **2.2 Site description**

2.2.1 The site is located centrally within Radlett and accessed from Loom Place via a crossover providing access to the site. The site is situated within an urbanised position with good canopy cover, ward canopy cover is 31.3% for the Aldenham East Ward (GB Ward Canopy Cover Web Maps). The trees subject of this report are situated sporadically throughout the site. The application site contains a detached dwelling and hardstand parking. The application site consists of the following habitat / green features – improved grass and trees.

## **2.3 Topographical survey**

2.3.1 A topographical survey was provided with the instruction for this project, OD recordings ranging from 99.40 to the east to 101.40 to the west were provided on the topographical survey. The site is generally flat with no significant changes in levels that will influence root orientation or morphology, it is therefore reasonable to assume the root protection areas will be normal in size and shape. Various inspection chambers were recorded during the survey, the date of construction/servicing is not known, it is not known therefore whether the below ground services are affecting / have previously affected the rooting zone of the trees. Overhead services were not recorded during the tree survey.

## **2.4 Soils**

2.4.1 British Soil Geology Maps scaled at 1:50,000 show the site to be situated on bedrock of Lambeth Group – clay, silt and sand and superficial deposits of Gerrards Cross Gravel - Sand and gravel. Sand and gravel soil texture is likely to offer a deeper rooting environment than that of clay as the roots can easily penetrate and explore sandy soils with little resistance, clay like soils tend to restrict root exploration. Clay soils can be modified by moisture, either reduced or increased in volume by fluctuations in moisture content, such fluctuations can influence how structures perform and therefore may require additional, engineered support to improve the stability of the structure. Local variations and differing soil seams of superficial and bedrock deposits do occur, differing bedrock and superficial deposits will have a different soil texture and structure to those described above and will perform differently. It is recommended core samples be obtained to determine the exact soil texture at the site.

### **Part 1 Tree Survey, Constraints and Impact Assessment**



## 3.1 Tree survey and schedule

3.1.1 The tree schedule provides an account of all the trees at or adjacent to the site and is written on to a tabular form. Each tree is given a reference number (T1, T2, T3, G1 etc) that is plotted on to a tree survey plan to be cross-referenced with the tabular form. Contained within the schedule are the dimensions of each individual tree and any notable physiological or mechanical defects. An estimated life expectancy is derived from the condition and context of the tree and then graded for the retention suitability. The tabular form can be found in appendix 1 with explanatory notes for each column heading. The tree survey plan can be found in appendix 2. Provided below is a table of the existing trees, their current condition and British Standard 5837 category grading. The categories for retention are; A - high value, B - moderate value, C - low value and U - unable to be retained as a living tree, each category is given a colour code for use with the tree survey plan (appendix 2), A - Green, B- Blue, C - Grey and U- Red. There are further sub-categories used alongside the categorisation; 1 arboricultural, 2 landscape and 3 wildlife or historical values. British Standard 5837 recommends trees with a stem diameter of less than 150mm are categorised as C regardless of condition, form etc. it is assumed that a tree of this size can either be transplanted or replaced without any negative impact upon tree-based visual amenity. Veteran and Ancient trees are automatically graded as category A due to their age and / or wildlife associations, although they will likely contain significant defects, generally the defects are the microhabitats that increase their value.

**Table 1 Tree condition table**

Tree ref	Species Common and Scientific	Age class	Observations	Category grading
T1	Cherry Plum Prunus cerasifera	M	Stem forks at 1m, compression fork formed at 1m. Slight suppressed crown.	C1
T2	Scots Pine Pinus sylvestris	M	Good condition.	A1
T3	Cherry Plum Prunus cerasifera	M	Stem forks at 2m, compression fork at 2m with included union. Slight suppressed crown.	C1
T4	Cherry Sp Prunus Sp	M	Stem forks at 2m to form tensile fork, small inclusion on driveway side. Slightly sparse crown. Buttress causing damage to driveway join. Large surface root running length of driveway and alongside alley to rear garden.	C1
T5	Lawson's Cypress Chamaecyparis lawsoniana	M	Compression fork at 1m, basal sweep. Topped at 8m	C1
T6	Lawson's Cypress Chamaecyparis lawsoniana	M	Topped at 8m	C1
T7	Lawson's Cypress Chamaecyparis lawsoniana	M	Leaning stem. Topped at 8m	C1

Tree ref	Species Common and Scientific	Age class	Observations	Category grading
T8	Holly Ilex aquifolium	EM	Clad in bramble.	C1
T9	Apple Sp Malus Sp	EM	3rd party unable to assess. Twin stem, DBH 300 300. Ivy clad.	C1
T10	Fir Sp. Abies Sp.	M	3rd party unable to assess.	B1
G1	Lawson's Cypress Chamaecyparis lawsoniana	M	3rd party unable to assess. Sparse crown.	C1
T11	Silver Birch Betula pendula	M	Slightly asymmetric crown. Aged tree for species.	B1
T12	Silver Birch Betula pendula	EM	Dying, poor condition,	C1
T13	Silver Birch Betula pendula	EM	Dying, poor condition, Black lesions on stem, indicative of honey fungus.	C1
T14	Silver Birch Betula pendula	EM	Dying, poor condition, Black lesions on stem, indicative of honey fungus. Only 1 live lateral.	C1
T15	Silver Birch Betula pendula	M	Slightly asymmetric crown.	B1
T16	Yew Taxus baccata	Y	Good condition.	C1
T17	Norway Spruce Picea abies	Y	Good condition.	C1
G2	Leyland cypress Cupressus x leylandii	EM	Close planting centres. Group sharing crown space.	C1
T18	Beech Fagus sylvatica	Y	Slightly asymmetric crown.	B1
T19	Holly Ilex aquifolium	EM	Abnormal taper.	C1
G3	Beech Fagus sylvatica	Y	Planted at 0.5m centres. Distorted stems and crown due to planting proximity.	C1
T20	Monterey Cypress Cupressus macrocarpa	M	Slightly open crown habit. Occasional small torn laterals. Could be removed in favour of T21 which is a more desirable species for the rear garden location.	B1
T21	Pear Pyrus communis	M	Compression fork at 2m. some crown decline west side likely due to shading.	B1
G4	Leyland cypress Cupressus x leylandii	EM	Close planting centres. Group sharing crown space.	C1
H1	Beech Fagus sylvatica	Y	Maintained at current height and spread.	C1
H2	Beech Fagus sylvatica	Y	Maintained at current height and spread.	C1

## 3.2 Further discussion

### 3.2.1 Visual amenity value.

Visual tree amenity value of the trees fronting Loom Place is good, the tree features can be seen from the publicly maintainable highway and are prominent features within the street scene. Although prominent features, trees T1, T3 and T4 have defects that are likely to reduce their longer-term viability and constrain any proposed development due to the close planting centres, spreading crown habit across the access / drive and the large structural surface roots from T4 that are causing damage to the existing driveway. The remaining trees features are limited in terms of visual amenity value as they are obscured from view by the existing built and natural form, they cannot be seen from any significant public vantage point.

### 3.2.1 Landscape value

The tree features provide reasonable landscape value, the trees help screen and reduce the perceptual load of the built form at and beyond the site boundaries reducing the visual impact of the hard landscape and roof line within the immediate area. The trees do not however, form part of the historical landscape (hedgerow, pollards, coppice) or landform (ditches, ponds, woodland edge remnant etc), the trees are considered recent landscape additions.

### 3.2.2 Wildlife value

The wildlife value is limited, the structural diversity and connectivity is poor, with limited ground and sub canopy layers but reasonable higher canopy layers which provides reduced foraging, breeding, migratory and navigational opportunity for less mobile fauna. The trees are a mix of native and non-native specimens, non -native trees tend to have limited numbers of associated native insects. The trees are a mix of early mature – mature specimens with a limited number of microhabitats as these tend to favour older / veteran specimens.

### 3.2.3 Condition

Trees T1, T2 and T4 have compression fork defects that are likely to reduce their longer-term viability, occasional Birch within the rear garden have died or are in decline. Most of the coniferous species have been previously topped, this particular management technique causes longer-term management issues as the lower laterals mature and become dominant causing a wider, higher crown.

### 3.2.4 Provided below is the British Standard 5837 categorisations with total number of surveyed trees for each corresponding categorisation:

A = 1

B = 6

C = 20

U = 0

- 3.2.5 All category A trees should be retained. The development design should seek to accommodate such trees using special construction techniques and design modification. There should be only very minor work within the RPA and only minor crown works, generally those required to improve the condition of the tree. Category A trees are those that offer a significant contribution to the amenity and character of the area, they have a long-life expectancy and contain very few defects.
- 3.2.6 The majority of category B trees should be retained where their long-term retention is achievable. A mixture of tree works, design modification and special construction techniques should be employed to accommodate category B trees. Generally, category B trees have a life expectancy over 20 years and offer a medium to long-term contribution to the amenity/character of the area. Category B trees contain occasional defects that can be remedied with suitable tree works.
- 3.2.7 The category C trees are desirable for retention in the short term. Generally, category C trees have a life expectancy of less than 10 years and would be acceptable to remove once new planting is established. Category C trees contain many defects that are likely to reduce the long-term life expectancy of the tree. Category C trees do not add to the character or visual amenity of the area.

## 4.1 Tree constraints

4.1.1 The above and below ground tree constraints are represented by the present crown spread and root protection areas (RPA) of each retained tree. British Standard 5837 provides a calculation for root protection areas for both single and multi-stem trees. The constraints are plotted to a site plan around each individual tree; the constraints plan is used to determine the site layout feasibility and further clarifies suitable tree retention or removal. The constraints plan can be found in appendix 2. Further consideration should be given to the future growth potential for each retained tree; the table below provides estimated growth rates that should be considered when achieving a suitable design layout.

4.1.2 Provided below is a constraints table that provides data for the radial distance required for the RPA, the present height and spread of the tree, the future increase in height and spread of the tree in 10 years and tree management considerations.

**Table 2 Tree constraints table**

Tree ref	Species Common and Scientific	Height in m	Stem diameter in mm	Radial distance required for RPA	Branch spread				Height of crown clearance in m	Estimated increase in crown height in M in 10 years	Estimated increase in crown lateral spread in M in 10 years	Management considerations
					N	E	S	W				
T1	Cherry Plum Prunus cerasifera	5	350	4.2	3	3	3	1	2	0	0	Likely to require crown works due to defect and proximity.
T2	Scots Pine Pinus sylvestris	17	460	5.52	4	4	4	4	5	2	1	None
T3	Cherry Plum Prunus cerasifera	7	290	3.48	3	3	3	1	2	0	0	Likely to require crown works due to defect and proximity.
T4	Cherry Sp Prunus Sp	12	390	4.68	5	5	5	5	2	0	0	Likely to require removal due to large structural surface root.
T5	Lawson's Cypress Chamaecyparis lawsoniana	8	490	5.88	1	1	1	1	2	0	0	Recently topped.

Tree ref	Species Common and Scientific	Height in m	Stem diameter in mm	Radial distance required for RPA	Branch spread				Height of crown clearance in m	Estimated increase in crown height in M in 10 years	Estimated increase in crown lateral spread in M in 10 years	Management considerations
					N	E	S	W				
T6	Lawson's Cypress Chamaecyparis lawsoniana	8	490	5.88	1	1	1	1	2	0	0	Recently topped.
T7	Lawson's Cypress Chamaecyparis lawsoniana	8	600	7.2	2	2	2	2	2	0	0	Recently topped.
T8	Holly Ilex aquifolium	6	180	2.16	1	1	1	1	0	1	1	None
T9	Apple Sp Malus Sp	12	424	5.088	4	4	4	4	4	0	0	Likely to require future crown works to maintain structure.
T10	Fir Sp. Abies Sp.	19	350	4.2	2	2	2	2	3	2	0.5	None
G1	Lawson's Cypress Chamaecyparis lawsoniana	17	300	3.6	1	1	1	1	2	2	1	None
T11	Silver Birch Betula pendula	18	660	7.92	3	5	5	3	4	2	2	None
T12	Silver Birch Betula pendula	17	350	4.2	2	2	2	2	10	0	0	Dying
T13	Silver Birch Betula pendula	17	400	4.8	2	2	2	2	10	0	0	Dying
T14	Silver Birch Betula pendula	17	450	5.4	2	2	2	2	10	0	0	Dying
T15	Silver Birch Betula pendula	18	440	5.28	4	2	4	4	4	2	2	None
T16	Yew Taxus baccata	5	180	2.16	2	2	2	2	0	1	1	None
T17	Norway Spruce Picea abies	6	100	1.2	2	2	2	2	0	2	0.5	None
G2	Leyland cypress Cupressus x leylandii	15	300	3.6	2	2	2	2	0	2	0.5	None
T18	Beech Fagus sylvatica	10	330	3.96	4	4	4	2	1	2	2	None
T19	Holly Ilex aquifolium	6	180	2.16	1	1	1	1	0	1	1	None
G3	Beech Fagus sylvatica	8	150	1.8	2	2	2	2	1	0	0	Close planting centres, likely to require removal.
T20	Monterey Cypress Cupressus macrocarpa	18	680	8.16	5	5	5	5	1	0	0	Recommend removal in favour of T21.
T21	Pear Pyrus communis	8	440	5.28	2	2	2	2	2	1	1	None

Tree ref	Species Common and Scientific	Height in m	Stem diameter in mm	Radial distance required for RPA	Branch spread				Height of crown clearance in m	Estimated increase in crown height in M in 10 years	Estimated increase in crown lateral spread in M in 10 years	Management considerations
					N	E	S	W				
G4	Leyland cypress Cupressus x leylandii	7	100	1.2	1	1	1	1	0	0	0	Close planting centres, likely to require removal.
H1	Beech Fagus sylvatica	3	100	1.2	1	1	1	1	0	0	0	Maintained at current height and spread.
H2	Beech Fagus sylvatica	3	100	1.2	1	1	1	1	0	0	0	Maintained at current height and spread.

## 5.1 Arboricultural impact assessment

5.1.1 Provided below is an assessment of the impact of the development on each individual tree and any design requirements for the site. Such factors include tree preservation orders, tree amenity, tree retention, removal of structures within RPA, infrastructure requirements, construction of infrastructure, end use of space, tree loss / new planting, light issues, proximity to structures, relationship with new homeowners and tree nuisance.

**Table 3 Arboricultural Impact Assessment**

Tree Ref	TPO/CA/other statutory protection. Amenity assessment. Retention recommendation.	Removal of existing structures and hard surfacing within RPA	Proposed Infrastructure within RPA	Construction methods for proposed infrastructure	End use of space	Tree loss and new planting	Shading and light	Proximity to structures	Future pressure for tree removal/works	Seasonal tree nuisance
T1, T3, T4, T5, T6, T7, T11, T12, T13, T14, T16, T17, T19, T20, H2, G2, and G3	<ul style="list-style-type: none"> <li>Hertsmere Borough Council Planning GIS checked 18/06/23, trees not subject to TPO. Site not listed within CA.</li> <li>Hedgerow not subject to hedgerow regulations 1997.</li> <li>MAGIC GIS checked 18/06/23 – site listed within SSSI Impact Zone.</li> <li>T1-T4 good amenity and landscape value, limited wildlife value, longer term value compromised due to condition. T5-T20, H2, G2 and G3, limited amenity, landscape, and wildlife value</li> <li>Trees recommended for removal</li> </ul>	N/a	N/a	N/a	N/a	<ul style="list-style-type: none"> <li>Fell trees</li> <li>No statutory requirement for replacement planting.</li> <li>Occasional shrub planting to mitigate loss.</li> </ul>	N/a	N/a	N/a	N/a



Tree Ref	TPO/CA/other statutory protection. Amenity assessment. Retention recommendation.	Removal of existing structures and hard surfacing within RPA	Proposed Infrastructure within RPA	Construction methods for proposed infrastructure	End use of space	Tree loss and new planting	Shading and light	Proximity to structures	Future pressure for tree removal/works	Seasonal tree nuisance
T2	<ul style="list-style-type: none"> <li>Hertsmere Borough Council Planning GIS checked 18/06/23, trees not subject to TPO. Site not listed within CA.</li> <li>MAGIC GIS checked 18/06/23 – site listed within SSSI Impact Zone.</li> <li>Good amenity and landscape value, limited wildlife value.</li> <li>Tree recommended for retention.</li> </ul>	<ul style="list-style-type: none"> <li>End phase of development – removal of existing driveway from within the RPA's of T2. Method statement supplied in section 9 and tree protection plan appendix 5.</li> </ul>	<ul style="list-style-type: none"> <li>New driveway surface to be constructed above the original construction depth of the existing driveway to be removed, no underlying soils to be disturbed.</li> </ul>	<ul style="list-style-type: none"> <li>Supervised excavation.</li> <li>See method statement provided within section 9 and tree protection plan appendix 5.</li> </ul>	<ul style="list-style-type: none"> <li>Front parking space not comprised by tree due to high crown and low nuisance value.</li> </ul>	N/a	<ul style="list-style-type: none"> <li>Mid-summer sunlight not affected by the tree.</li> </ul>	<ul style="list-style-type: none"> <li>Minor encroachment of crown.</li> <li>Target pruning in the future may be required.</li> </ul>	<ul style="list-style-type: none"> <li>Low, assuming tree works are carried out as specified.</li> </ul>	<ul style="list-style-type: none"> <li>Leaf and fruit dispersal</li> <li>Nuisance of blocked drains, gutters etc.</li> <li>Recommend use of guards as appropriate to prevent blockages occurring.</li> <li>Use surfaces that do not tarnish from tree deposits (shingle, loose stone, grass, etc.)</li> </ul>
T9 and T10	<ul style="list-style-type: none"> <li>Hertsmere Borough Council Planning GIS checked 18/06/23, trees not subject to TPO. Site not listed within CA.</li> <li>MAGIC GIS checked 18/06/23 – site listed within SSSI Impact Zone.</li> <li>Limited amenity, landscape, and wildlife value</li> <li>Trees recommended for retention.</li> </ul>	N/a	<ul style="list-style-type: none"> <li>T9 – Founds within RPA.</li> <li>T10 – Hard landscaping within RPA.</li> </ul>	<ul style="list-style-type: none"> <li>Supervised mechanical excavation.</li> <li>See method statement provided within section 9 and tree protection plan appendix 5.</li> </ul>	<ul style="list-style-type: none"> <li>Slight crown encroachment over amenity spaces.</li> <li>Target pruning / tip pruning is a viable option.</li> </ul>	N/a	<ul style="list-style-type: none"> <li>Late evening Mid-summer shade to occur.</li> <li>Morning and later afternoon sunlight unaffected.</li> </ul>	<ul style="list-style-type: none"> <li>Minor encroachment of crown.</li> <li>Target pruning in the future may be required.</li> </ul>	<ul style="list-style-type: none"> <li>Low, assuming tree works are carried out as specified.</li> </ul>	<ul style="list-style-type: none"> <li>Leaf and fruit dispersal</li> <li>Nuisance of blocked drains, gutters etc.</li> <li>Recommend use of guards as appropriate to prevent blockages occurring.</li> <li>Use surfaces that do not tarnish from tree deposits (shingle, loose stone, grass, etc.)</li> </ul>
T8, T15, T18, T21, H1 and G1.	<ul style="list-style-type: none"> <li>Hertsmere Borough Council Planning GIS checked 18/06/23, trees not subject to TPO. Site not listed within CA.</li> <li>MAGIC GIS checked 18/06/23 – site listed within SSSI Impact Zone.</li> <li>Limited amenity, landscape, and wildlife value</li> <li>Trees recommended for retention.</li> </ul>	N/a	N/a	N/a	<ul style="list-style-type: none"> <li>Trees not constraining the rear amenity space.</li> </ul>	N/a	<ul style="list-style-type: none"> <li>Late / early evening Mid-summer shade to occur.</li> <li>Morning and afternoon sunlight unaffected.</li> </ul>	<ul style="list-style-type: none"> <li>Trees at sufficient distance from structures so as not to cause general nuisance.</li> </ul>	<ul style="list-style-type: none"> <li>Low. Trees will not affect the end use or limit the enjoyment of the amenity and dwelling space.</li> </ul>	<ul style="list-style-type: none"> <li>Leaf and fruit dispersal</li> <li>Nuisance of blocked drains, gutters etc.</li> <li>Recommend use of guards as appropriate to prevent blockages occurring.</li> <li>Use surfaces that do not tarnish from tree deposits (shingle, loose stone, grass, etc.)</li> </ul>

## 5.2 Further discussion

- 5.2.1 Below ground services for drainage, electricity, gas, water, telecoms, are to be located outside the RPA of the retained trees or connected to existing services within the site. If however, this is not viable then trenchless methods of working will be adopted, shallow trenching may be permitted although a trial trench should be prepared to determine the presence of roots and the impact upon the health of the tree affected. Overhead services such as lighting columns, electricity, telecoms, etc. are to be outside the present and future canopy spread, use of Table 2 'Tree Constraints' will aid design.
- 5.2.2 Guttering and drains will have guards to prevent leaf/fruit drain blockages. Where a significant loss of rainwater water is likely due to loss of natural soft surfaces, the rainwater drainage will be redirected into the soil area of the retained trees. The drainage will result in an even and slow distribution within the soil environment, it will not cause waterlogged conditions or damage to the soil structure, structural engineer to advise further.
- 5.2.3 The information provided in the impact assessment and constraints advice has provided a basis for tree retention, works specification and construction techniques required. Further details for this can be found in the following sections of this report.

**6.1 Tree removals and impact assessment**

**6.1.1** Provided below is a table of the trees to be removed and the impact upon visual amenity value. This is to be cross-referenced with the tree survey plan provided in appendix 2.

**Table 4 Trees to be removed**

Trees to be removed	Reason for removal	Impact upon visual amenity
T1, T3, T4,	Poor condition. Improve front parking amenity	Moderate. Although providing reasonable amenity value, the trees have defects that limit their longer-term viability. Replacement with shrubs and low storey planting will offer visual amenity to the area whilst improving the space for the car parking for the proposal.
T5, T6, T7, T11, T12, T13, T14, T16, T17, T19, T20, H2, G2, and G3	Facilitate construction	Low. The trees are to the rear of the site and obscured from view by the existing natural and build form. The trees cannot be seen from any significant public vantage point.

## Part 2 Arboricultural Method Statement

### 7.1 Tree works specification

**7.1.1** All tree works are to be completed as a starting phase of development unless otherwise stated.

**7.1.2** All works are to be completed to BS3998 2010 'Recommendations for tree works'

**7.1.3** Research suggests that tree works are better completed when the trees are using the least amount of energy and when conditions do not favour pathogens. It is recommended that the works specified below be carried out in midsummer July/early August or the dormant period Jan/Feb. Specifically, times of bud break and leaf abscission should be avoided. This may need further assessment for different species or for aged/veteran trees whose energy reserve and potential to kinetic ratio is susceptible to change from minor tree works. Where this is likely to occur, a separate management plan for that individual tree may be required.

**7.1.4** Provided below is a table showing tree works specification. The key for works urgency can be found in Appendix 1 Explanatory notes.

**Table 5 Tree works specification**

Tree ref	Species Common and Scientific	Age class	Tree works to facilitate development and / or access	Preliminary management recommendations	Works urgency (Preliminary works only)	Category grading
T1	Cherry Plum Prunus cerasifera	M	Fell and grind stump following below ground service assessment.	None	0	C1
T2	Scots Pine Pinus sylvestris	M	Removal of the existing driveway within the RPA (end phase of development). See method statement provided in section 9 and tree protection plan appendix 5.	None	0	A1
T3	Cherry Plum Prunus cerasifera	M	Fell and grind stump following below ground service assessment.	None	0	C1
T4	Cherry Sp Prunus Sp	M	Fell and grind stump following below ground service assessment.	None	0	C1

Tree ref	Species Common and Scientific	Age class	Tree works to facilitate development and / or access	Preliminary management recommendations	Works urgency (Preliminary works only)	Category grading
T5	Lawson's Cypress <i>Chamaecyparis lawsoniana</i>	M	Fell and grind stump following below ground service assessment.	None	0	C1
T6	Lawson's Cypress <i>Chamaecyparis lawsoniana</i>	M	Fell and grind stump following below ground service assessment.	None	0	C1
T7	Lawson's Cypress <i>Chamaecyparis lawsoniana</i>	M	Fell and grind stump following below ground service assessment.	None	0	C1
T8	Holly Ilex <i>aquifolium</i>	EM	None	Clean bramble from stem.	2	C1
T9	Apple Sp <i>Malus Sp</i>	EM	Supervised mechanical excavation and root pruning within the RPA. See method statement provided in section 9 and tree protection plan appendix 5.	None	0	C1
T10	Fir Sp. <i>Abies Sp.</i>	M	Supervised mechanical excavation and root pruning within the RPA (end phase of development). See method statement provided in section 9 and tree protection plan appendix 5.	None	0	B1
G1	Lawson's Cypress <i>Chamaecyparis lawsoniana</i>	M	None	None	0	C1
T11	Silver Birch <i>Betula pendula</i>	M	Fell and grind stump following below ground service assessment.	None	0	B1
T12	Silver Birch <i>Betula pendula</i>	EM	Fell and grind stump following below ground service assessment.	Fell	3	C1
T13	Silver Birch <i>Betula pendula</i>	EM	Fell and grind stump following below ground service assessment.	Fell	3	C1
T14	Silver Birch <i>Betula pendula</i>	EM	Fell and grind stump following below ground service assessment.	Fell	3	C1
T15	Silver Birch <i>Betula pendula</i>	M	None	None	0	B1
T16	Yew <i>Taxus baccata</i>	Y	Fell and grind stump following below ground service assessment.	None	0	C1
T17	Norway Spruce <i>Picea abies</i>	Y	Fell and grind stump following below ground service assessment.	None	0	C1
G2	Leyland cypress <i>Cupressus x leylandii</i>	EM	Fell and grind stump following below ground service assessment.	None	0	C1
T18	Beech <i>Fagus sylvatica</i>	Y	None	None	0	B1

# TPS

Tree ref	Species Common and Scientific	Age class	Tree works to facilitate development and / or access	Preliminary management recommendations	Works urgency (Preliminary works only)	Category grading
T19	Holly Ilex aquifolium	EM	Fell and grind stump following below ground service assessment.	None	0	C1
G3	Beech Fagus sylvatica	Y	Fell and grind stump following below ground service assessment.	None	0	C1
T20	Monterey Cypress Cupressus macrocarpa	M	Fell and grind stump following below ground service assessment.	None	0	B1
T21	Pear Pyrus communis	M	None	None	0	B1
G4	Leyland cypress Cupressus x leylandii	EM	Fell and grind stump following below ground service assessment.	None	0	C1
H1	Beech Fagus sylvatica	Y	None	None	0	C1
H2	Beech Fagus sylvatica	Y	Fell and grind stump following below ground service assessment.	None	0	C1

## 8.1 Tree protection method statement

- 8.1.2 Tree protection is required to prevent physical damage to the stem, branch and crown structure. Tree protection is used also to prevent indirect damage caused by loads passing over the root protection area that would otherwise cause compaction of the soil. Soil compaction reduces soil pore space, which in turn reduces; soil air, available water and nutrients, the anaerobic environment will prevent healthy and strong root growth (elongation, thickening, mycorrhizal association, etc.). Prolonged anaerobic soil conditions will lead to longer term poor tree health with symptoms (crown die back, sparse crown, poor extension growth, etc.) not evident until well after the occurrence. The simplest and most effective way to prevent damage to any retained tree on the development site is the provision of a construction exclusion zone around the tree and its calculated rooting area.
- 8.1.2 The areas for protection will see the RPA confirmed on the ground with the erection of a scaffold frame with wire mesh attached (Please see appendix 3 Barrier protection construction profile, diagram 2). Where site personnel require access across the RPA, ground protection will be installed utilising scaffold boards laid on a compressible layer (100mm of woodchip) with geotextile membrane beneath, as per British Standard 5837 section 6.2.3.3 (see appendix 5 tree protection plan). Where plant less than 2 tonnes requires access across an RPA, the compressible layer, as described above, should be increased to 200-300mm and the scaffold boards substituted for composite boards fit for the applied load, plant above 2 tonnes should utilise reinforced concrete slabs or specialised track mats fit for the applied load.
- 8.1.3 The barrier protection will contain and display information highlighting the protected tree and consequences of any breach of tree protection. Please see appendix 4, example of informative to be placed on barrier protection.
- 8.1.4 The tree protection plan is shown in appendix 5. This shows; the RPA for each retained tree, the location of protective barriers/ground protection and areas for site storage and contractors parking.

## 9.1 Construction method statements

9.1.2 Provided in this section are arboricultural method statements primarily concerned with working within the RPA of the retained trees. The method statements are designed to minimise/remove any identified impact or damage/disturbance that may otherwise occur. The method statements provided should be distributed to all key staff involved with the development.

## 9.2 Supervised mechanical excavation and removal of hard surfacing within the RPA

9.2.1 Excavation will be required within the RPA of T2, T9 and T10 as identified in the impact assessment section 5 and tree protection plan appendix 5 to remove the existing driveway from the RPA of T2, construct the founds within the RPA of T9 and construct the hard landscaping within the RPA of T10. The existing driveway is to be broken out as an end phase of development to the existing construction depth only, no underlying soils are to be removed, it is unlikely that significant roots will be observed. Excavation depth for the founds are to be confirmed by the project structural engineer. All hard landscaping is to be completed as an end phase of development.

### **Works to be completed once tree barrier protection is installed - Sequential method statement for supervised mechanical excavation**

- 1 Founds - Using a mechanical excavator and untoothed ditching bucket working from outside of the RPA or from suitable ground protection as described in section 8 of the AIA and away (backwards) from the tree, scrape 100mm of the existing soft surface / area for construction of the founds. Following each soil scrape interval, the project arboriculturist is to check the exposed area for roots, if roots are encountered see points 2 onwards below. Repeat the soil scrape process to the required construction depth - (TBC by project structural engineer), the same method as above can be applied to T10 as an end phase of development. Removal of the existing driveway (end phase) - Break out using handheld concrete breakers. Remove by hand and hand barrow all debris and store outside of RPA. Remove subbase to original construction depth, assumed to be 150-200mm, if roots are encountered see point 2 onwards below.



2. Where roots are pliable and will not damage from movement, push to side of pit or downwards and pin using a hazel rod or soil.
3. Any exposed roots should immediately be wrapped or covered in damp hessian to prevent desiccation and to protect them from rapid temperature changes.
4. If required, sever any roots with a diameter less than 25mm (use a sharp tool to provide a clean cut across the cross section near to a root junction/growth point).
5. Avoid severing roots greater than 25mm or clumps of roots (root mats). If this is necessary, then request an arboriculturist to attend the site to assess likely impact upon tree health and future stability.
6. Prior to backfilling any roots should be removed from the protective wrapping and surrounded by sharp sand, or other loose granular fill, before soil or other material is replaced. The backfill is to be free from any contaminants or foreign objects.
7. Monitor tree health during next 2 growth seasons. Check leaf colour, size, density and extension growth.

### **9.3 Soft surfaces within RPA**

9.3.1 Provided below is a method statement to avoid damaging/disturbance to the roots of the retained trees during soft landscape operations.

- Damage to roots is to be avoided, large structural roots may be seen at or near the surface and where they radiate from the stem of the tree from large buttresses. After around 4m radial distance structural roots tend to taper to around 3cm in diameter.
- No tractor mounted or heavy plant rotavating machinery is to be used unless working on surface fit for purpose to reduce/spread load and prevent soil compaction.

# TPS

- Cultivation is to be completed using manual hand tools only.
- The existing soil is to be used, where additional soil is required it should be contaminant free, well drained and suitable PH, texture and structure for the site and planting/existing trees/shrubs.
- Changes in ground levels are to be avoided, any lowering or raising of levels should be carried out using a suitable method statement that maintains continued soil conditions for gas exchange and water percolation.
- Planting is to be done with care and to avoid severing tree roots; generally, planting should be completed outside the RPA.

## **10.1 General arboricultural considerations**

10.1.1 Provided in this section are wider arboricultural considerations to be used either at the later design stage or for the 'on-site' contracting team. Further information contained within this section provides details on tree and associated wildlife legislation. The method statements provided should be distributed to all key staff involved with the development.

## **10.2 Storage**

10.2.1 There is to be no storage within the RPA of any retained trees. An outline area can be designated at pre-commencement construction site meeting.

## **10.3 Contractors parking**

10.3.1 There is to be no parking within the RPA of any retained trees. An outline area can be designated at pre-commencement construction site meeting.

## **10.4 Slope**

10.4.1 All mixing and storage of materials/chemicals to be done on a pre-prepared flat/level surface with sealed sides to prevent any runoff. Storage of all chemicals/materials likely to cause harm to the trees should be in a sealed container or area with a bund to prevent run off if spillages occur. Site personnel are to have access to spillage treatment equipment.

## **10.5 Services**

10.5.1 Methods for service run construction within the RPA are micro tunnelling, Surface launched directional drilling, pipe ramming and impact moling. Method statements for the above listed modes of service provision should be provided by the relevant utility companies. Shallow trenching may be acceptable for minor services; if shallow

trenching is required then hand excavation should be adopted using an approved method statement.

10.5.2 All overhead services are to be located outside the present and future crown spread of the retained trees, use tree constraints table provided in section 4 to aid design.

## **10.6 Levels**

10.6.1 No stripping or raising of levels within the RPA without consent from the local authority. Where site levels require lowering, the use of hand excavation or an air spade should be adopted using an approved method statement. If site levels are to be raised the material added should allow for water infiltration and gaseous exchange allowing the roots to carry out their normal biological function, the use of structural soil and a below ground aeration system may be required depending on the size of the area affected and depth.

## **10.7 Development phasing**

10.7.1 All contracting staff working at the site should be briefed on approved working practices and protection requirements for the retained trees.

10.7.2 The tree works specification should be completed following approval from the local authority.

10.7.3 Prior to the commencing of development the chosen arboriculturist should re- assess all retained trees and provide further assessment.

10.7.4 All barrier/ground protection should be erected/laid and confirmed as correct by the arboriculturist. All signs should be placed on the barriers at a height of 2m at 3m intervals.

10.7.5 Excavation as detailed within section 9 and tree protection plan appendix 5.

10.7.6 Barrier/ground protection altered after intensive phase of development.

10.7.7 Soft landscaping as final phase of development.

10.7.8 Barrier / ground protection removed following landscaping phase.



## 10.8 Monitoring

### 10.8.1 Key site personnel

#### Architect and Contractors

Name	Position	Contact details
Builder TBC		
Haverstock	Design Consultant	<a href="mailto:Kirsten.Gollifer@haverstock.com">Kirsten.Gollifer@haverstock.com</a>

#### Planning Authority

Name	Position	Contact details
Hertsmere Borough Council	Planning Team	<a href="mailto:planning.trees@hertsmere.gov.uk">planning.trees@hertsmere.gov.uk</a>

#### Arboriculturist

Name	Position	Contact details
James Choat	Arboricultural Consultant	07813204621
		<a href="mailto:james@treeplanningsolutions.co.uk">james@treeplanningsolutions.co.uk</a>

10.8.2 It is recommended that all trees and protection methods be monitored for the duration of development. A qualified arboriculturist will make a regular visit; the project arboriculturist is to carry out an assessment of tree health and protection condition and make recommendations when required.

### 10.8.3 Site specific monitoring

Item	Number of visits required	Timing of visit
Pre-commencement site meeting with key personnel. (Contractor, site manager, architect). Tree works Tree protection installation (ground/barrier) as per tree protection plan and method statements within supplied arboricultural report. Identify area for contractors parking, site storage and access. Place 'exclusion zone' signs at 2m height, 3m intervals facing outwards on temporary fencing.	1 – 2 depending on whether items can be completed on same day.	Meeting to be arranged between architect and site manager before construction phase.
Site visit during construction phase to monitor tree health and tree protection condition.	5 – 2 specifically	During construction phase
Removal of tree protection.	1	After intensive construction phase

**10.8.4** The above is subject to the client/site manager informing the project staff of the proposed date for each development activity. Following each site visit a brief report (see appendix 6 arboricultural monitoring form) is to be sent to the client and local authority within 24 hrs following the visit. Any incidents will be dealt with within 2 hours and to be reported to the project arboriculturist, photos to be provided via email and recommendations provided verbally, if required a site visit should be undertaken to provide further advice/ recommendations.

### 10.9 Incidents/variations

#### 10.9.1 Planned

- Site manager to contact arboriculturist for any anticipated/planned variations
- Arboriculturist to assess the impact upon trees and offer advice regarding alternative methods
- Arboriculturist to update the local authority tree officer / planning officer providing details of variations

#### 10.9.2 Non-planned

- Site manager to inform arboriculturist of incident
- Site manager to photograph incident and send to arboriculturist
- Arboriculturist to provide initial advice via telephone or email

- Arboriculturist to make site visit within 1 day to assess impact upon trees and offer advice to reduce/remove impact
- Arboriculturist to update the local authority tree officer providing details of incident and control measure taken to reduce/remove impact.

## 10.10 Wildlife legislation

10.10.1 The Wildlife and Countryside Act 1981, The Habitats Directive 1994 (consolidated under Conservation of Habitats and Species Regulations 2017) and The Countryside and Rights of Way Act 2000. These acts protect certain species of flora and fauna; it is an offence to intentionally or recklessly destroy species or habitats contained within these acts. Trees, especially veteran or ancient, can support associated flora and fauna that is protected via the above legislation. It is recommended the applicant employ a suitably qualified ecologist to carry out a survey of the area to ensure no offence is committed. See the following link for further details.

<https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications>

## 10.11 Tree legislation

10.11.1 The Town and Country Planning Act 1990. It is an offence to cut down, uproot, lop, top, or cause wilful damage or destruction to a tree subject of a tree preservation order or conservation area. Such acts will lead to prosecution and if convicted a fine not exceeding £20,000 in the magistrate's court; if the case is referred to the crown court the fine may be unlimited. See the following link for further details.

<https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas>

10.11.2 Hedgerow regulations 1997 protect certain hedgerows from being removed, certain exemptions apply. A removal notice is required to be sent to the local authority for their consideration to determine whether the hedgerow is important before the authority can permit the removal of a hedgerow subject of the above regulations. See

the following link for further details.

<http://www.legislation.gov.uk/uksi/1997/1160/contents/made>

10.11.3 Forestry Act 1967 as amended - Felling licences are issued by the forestry commission, certain exemptions apply. Before felling trees, a check with the Forestry Commission should be made to ensure a felling licence is not required. See the following link for further details. <http://www.legislation.gov.uk/ukpga/1967/10/contents>



## 11.1 Conclusion

### 11.1.1 All surveyed trees have been categorised in accordance with British Standard 5837 2012.

Visual tree amenity value of the trees fronting Loom Place is good, the tree features can be seen from the publicly maintainable highway and are prominent features within the street scene. Although prominent features, trees T1, T3 and T4 have defects that are likely to reduce their longer-term viability and constrain any proposed development due to the close planting centres, spreading crown habit across the access / drive and the large structural surface roots from T4 that is causing damage to the existing driveway. The remaining trees features are limited in terms of visual amenity value as they are obscured from view by the existing built and natural form, they cannot be seen from any significant public vantage point. The tree features provide reasonable landscape value, the trees help screen and reduce the perceptual load of the built form at and beyond the site boundaries reducing the visual impact of the hard landscape and roof line within the immediate area. The trees do not however, form part of the historical landscape (hedgerow, pollards, coppice) or landform (ditches, ponds, woodland edge remnant etc), the trees are considered recent landscape additions. The wildlife value is limited, the structural diversity and connectivity is poor, with limited ground and sub canopy layers but reasonable higher canopy layers which provides reduced foraging, breeding, migratory and navigational opportunity for less mobile fauna. The trees are a mix of native and non-native specimens, non-native trees tend to have limited numbers of associated native insects. The trees are a mix of early mature – mature specimens with a limited number of microhabitats as these tend to favour older / veteran specimens. Trees T1, T2 and T4 have compression fork defects that are likely to reduce their longer-term viability, occasional Birch within the rear garden have died or are in decline. Most of the coniferous species have been previously topped, this particular management technique causes longer-term management issues as the lower laterals mature and become dominant causing a wider, higher crown.

11.1.2 Hand excavation within small sections of the RPA of T1, T9 and T10 will be required to remove the existing driveway and construct a new driveway (end phase of development), construct the foundations (starting phase of development) and for the hard landscaping to the rear (end phase of development). A suitable method statement for

supervised excavation is provided to reduce the impact that would otherwise result from unsupervised excavation resulting in tearing of roots unnecessary root loss and soil compaction. Trees T1, T3, T4, T5, T6, T7, T11, T12, T13, T14, T16, T17, T19, T20, H2, G2, and G3 are to be removed to facilitate development. Trees T1, T3 and T4 provide reasonable amenity value, the trees however have defects that will limit their longer-term viability, replacement planting with shrubs and lower storey planting is considered sufficient to mitigate the loss. The better specimen T2, is retained to maintain visual amenity value to the front aspect of the site. The remaining trees provide limited visual amenity value and cannot be seen from any significant public vantage point due to their position to the rear of the site, their loss will not cause a significant negative impact on visual amenity or local landscape character. No further tree works are required to facilitate construction of the proposal or access to the site. The trees can be adequately protected using temporary barriers and the existing hard surfaces as ground protection in accordance with BS 5837. Following development, the trees will not be further obscured, the development is therefore considered to have a low impact upon visual amenity value.

11.1.3 Tree protection and method statements have been provided within this report to reduce the risk of direct and indirect development related damage that may otherwise occur to the retained trees. In conclusion, assuming the method statements and tree protection are implemented as part of the development, the proposal can be constructed with reduced disturbance to the trees.

