



## Part 2: BS: 5837 Arboricultural Impact Assessment & 'Draft' Tree Protection Plan Report

**Site:**

19-21 High Street  
Markyate  
St Albans  
Hertfordshire  
AL3 8PG

**Date of Site Visit:**

Thursday 1<sup>st</sup> September 2022

**Prepared for:**

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**Bartlett Project Reference:**

JPL/220329/R2a



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## **1.0 SCOPE OF REPORT**

### **1.1 Instruction**

1.1.0 Bartlett Consulting has previously been instructed to undertake a tree survey and compose a Tree Constraints Plan (TCP) following the guidance of British Standard 5837: 2012 *Trees in Relation to Design, Demolition and Construction – Recommendations*, gathering data on trees and vegetation within the boundary of 19-21 High Street, Markyate, St Albans, Hertfordshire, AL3 8PG, as well as those on neighbouring properties considered to be within influencing distance. Data pertaining to eight trees (T01 – T08) located on land suspected to be owned by Hertfordshire County Council and two further trees (T09 & T10) located within the rear amenity garden of Flowerdale Cottages were obtained.

1.1.1 This report takes the previously gathered tree data and constraints, and overlays that information with the proposed site plan and proposed site layout, allowing for an evaluation of how the proposed extension to the existing semi-detached dwellings fronting Markyate High Street, demolition of the single ancillary outbuilding and construction of three new cottages to the rear of the site will co-exist with the tree population. Where there are trees which have the potential to influence, those trees must be considered as a constraint within the project planning.

### **1.2 Documents & supporting information**

1.2.0 Bartlett Consulting was provided with the following documentation and plans prior to composing this report. They were sent via email in both .pdf and .dwg file format:

*Proposed Plans & Elevations Front Building – Drawing Number: 5940 PL04, Rev. C.pdf*

*Proposed Plans & Elevations Rear Building – Drawing Number: 5940 PL05, Rev. D.pdf*

*Proposed Street Elevations – Drawing Number: 5940 PL06, Rev. B.pdf*

*5940-23.04.14 Proposed Amended Planning.dwg*

### **1.3 Aspects included within report**

1.3.0 The information contained within this report follows the guidance of British Standard 5837 2012: *Trees in Relation to Design, Demolition and Construction – Recommendations*.

1.3.1 This Arboricultural Impact Assessment (AIA) is accompanied by a 'Draft' Tree Protection Plan (DTPP). This plan illustrates trees to be retained and incorporated into the proposed development, identifies where above and below ground level constraints are caused and gives consideration to statutory controls, as well as the potential loss of trees on and adjacent to the site. Issues also considered identify any necessity to undertake facilitation pruning to retained trees, either arising from accommodation, excessive shading or due to an unacceptable amount of encroachment upon a retained tree's rooting zone.

1.3.2 The DTPP also identifies recommended locations of physical tree protection barriers, non-compacting ground protection, and site-specific working methodologies.

1.3.3 Mitigation measures are also provided within this report, identifying the need for physical tree protection barriers, non-compacting ground protection, as well as tree replacement planting.

1.3.4 Modified RPA's will be illustrated if known, below ground level obstructions exist, or where considered appropriate to do so.

### **1.4 Aspects excluded from report**

1.4.0 This report does not include an Arboricultural Method Statement (AMS), or a 'Final' Tree Protection Plan (FTPP).

1.4.1 The contents of this report do not include discussions regarding subsidence and/or heave as a result of retention or tree removal, nor does this report consider the water demands of trees present to determine foundation design and depth. If required, this can be provided on request.

## 2.0 IMPLICATIONS OF PROPOSED DEVELOPMENT UPON EXISTING TREE POPULATION

### 2.1 Description of the proposed development

2.1.0 From the information provided to us and listed in Section 1.2 above, it is our understanding that the following aspects of proposed development which influence, or are influenced by the existing trees are:

1. Demolition of existing outbuilding/ store room.
2. Construction of three, 3x bedroom cottages within the rear of the site.
3. Construction of three storey front extensions to existing High Street frontage.

### 2.2 Table 1: Implications of proposed development upon existing tree population

Tree Ref.	Species	Category	Removal due to		Mitigation Required		Aspect of Development affecting retained tree
			Works	Condition	Crown	RPA	
T01	Sycamore ( <i>Acer pseudoplatanus</i> )	B2	N/A	N/A	N/A	N/A	No issues.
T02	Sycamore ( <i>Acer pseudoplatanus</i> )	B2	N/A	N/A	N/A	N/A	No issues.
T03	Sycamore ( <i>Acer pseudoplatanus</i> )	B2	N/A	N/A		N/A	Construction of plot 6 located beneath south - western crown.
T04	Sycamore ( <i>Acer pseudoplatanus</i> )	B2	N/A	N/A		N/A	Construction of plot 6 located beneath south - western crown.
T05	Sycamore ( <i>Acer pseudoplatanus</i> )	B2	N/A	N/A	N/A	N/A	No issues.
T06	Sycamore ( <i>Acer pseudoplatanus</i> )	B2	N/A	N/A	N/A	N/A	No issues.
T07	Sycamore ( <i>Acer pseudoplatanus</i> )	B2	N/A	N/A	N/A	N/A	No issues.
T08	Sycamore ( <i>Acer pseudoplatanus</i> )	B2	N/A	N/A	N/A	N/A	No issues.
T09	Sycamore ( <i>Acer pseudoplatanus</i> )	C2	N/A	N/A			Re -landscaping of rear gardens of plot 4 & 5 occurring beneath western crown and within RPA.
T10	Sycamore ( <i>Acer pseudoplatanus</i> )	C2	N/A	N/A	N/A	N/A	No issues.

## 2.0 IMPLICATIONS OF PROPOSED DEVELOPMENT UPON EXISTING TREE POPULATION (Continued...)

### 2.3 Table 2: Mitigation measures required for proposed development & existing tree conflicts

Tree Ref	Species	Category	Mitigation Required
T03	Sycamore ( <i>Acer pseudoplatanus</i> )	B2	Retention of existing brick masonry boundary/ retaining wall.
T04	Sycamore ( <i>Acer pseudoplatanus</i> )	B2	Retention of existing brick masonry boundary/ retaining wall.
T06	Sycamore ( <i>Acer pseudoplatanus</i> )	B2	Retention of existing brick masonry boundary/ retaining wall.
T09	Sycamore ( <i>Acer pseudoplatanus</i> )	C2	Erection of robust Tree Protective Barriers, as per JPL/220329/DTPPa – Draft Tree Protection Plan.

### 2.4 Table 3: Tree work

Tree Ref	Species	Category	Schedule of works prior to erection of tree protection barriers
T03	Sycamore ( <i>Acer pseudoplatanus</i> )	B2	Crown lift to 10.0m.
T04	Sycamore ( <i>Acer pseudoplatanus</i> )	B2	Crown lift to 10.0m.

### 3.0 SUMMARY OF IMPLICATIONS ASSESSMENT

#### 3.1 Table 4: BS: 5837 categories & tree loss

BS: 5837 Category	Quantity	Tree Reference Number
A	0	-
B	0	-
C	0	-
U	0	-
<b>Total</b>	0	-

#### 3.2 Tree loss

3.2.0 The proposed scheme does not necessitate the removal of any trees within or adjacent to the application site. As a result there shall be no measurable loss of amenity to the local or wider landscape arising from this project.

3.2.1 Each plot has been provided with the required car parking allocation and private amenity gardens, however, no information regarding hard and soft landscaping has been provided at the time of writing.

3.2.2 A tree planting plan can be provided on request.

#### 3.3 Discussion of Direct Impacts:

3.3.0 We consider that the rear boundary treatment; brick masonry wall/ retaining wall demarking the north-eastern boundary of the site features significant foundations, which have formed an effective tree root barrier. As a result we do not believe that the roots from any of the adjacent Category B trees (T01 – T08) have trespassed into/ beneath the application site boundaries.

3.3.1 Demolition of the existing outbuilding will have no direct impact upon the root systems of T01 – T08. That said, the demolition of the said outbuilding must be conducted in a careful and controlled manner, employing a ‘top-down, pull-back’ methodology. This shall ensure that all arising debris will fall within the footprint of the existing building and no harm shall come to any adjacent tree.

3.3.2 The removal of the outbuilding subbase will not have any direct impact upon the root systems of T01 – T08. Similarly the construction of the basements serving plots, 4, 5 & 6 will have no direct impact.

3.3.3 We consider that the existing timber fence panels located along the south-eastern boundary have not inhibited root development to the adjacent Category C tree; T09 – Sycamore. As such we anticipate that the tree’s calculated RPA has extended into the application site. This tree, albeit a self-sewn multi-stemmed specimen, not entirely worthy of retention must be regarded as a physical constraint; above and below ground level. The tree’s crown and calculated RPA must both be afforded protection for the duration of works on site. Please refer to the supporting ‘Draft’ Tree Protection Plan for further information.

3.3.4 We have identified that the crowns of 2x Category B trees; T03 & T04 will overhang the roof of plot 6, by an estimated 1.5m. We consider it best practice to implement a sympathetic crown lifting operation to a height of approx. 9.0m. This should permit the construction of the dwellings whilst avoiding conflict during the construction phase and during the future occupation of the site.

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### **3.0 SUMMARY OF IMPLICATIONS ASSESSMENT (Continued...)**

#### **3.4 Discussion of Indirect Impacts:**

- 3.4.0 All site traffic shall enter the application site via the existing shared ingress/ egress from Markyate High Street. By utilising this access, there shall be no impact whether it be direct or indirect to any of the retained trees adjacent to the application site.
- 3.4.1 As the rear boundary treatment/ retaining wall has effectively inhibited the root development of trees T01 – T08, we have identified that the only tree with a root system capable of trespassing the application site is the Category C tree; T09 – Sycamore. Compaction of local soils and those supporting the trees calculated RPA must be afforded physical protection barriers. The barriers must accord with the guidance document: *BS: 5837 (2012) Trees in relation to design, demolition and constriction – Recommendations*.
- 3.4.2 We have identified, from an arboricultural perspective, areas within the site suitable to be designated for material delivery and storage as well as those suitable to accommodate site office and welfare facilities. Please refer to the supporting 'Draft' Tree Protection Plan for further information.
- 3.4.3 At the time of writing, no information regarding boundary treatments have been provided. However, we considered it essential that the existing brick masonry wall/ retaining wall is retained and incorporated into the scheme, as the foundations serving it have acted as an effective root barrier. The south-eastern boundary is currently demarked by timber fence panels, one would assume that this will be replaced as part of the hard and soft landscaping scheme. Care and attention must be paid during installation of any replacement boundary treatment to ensure root damage is not incurred to the roots serving T09.

#### **3.5 Infrastructure requirements**

- 3.5.0 Ground use planning should form part of the development project, with existing and/or proposed utility corridors identified on the proposed plans. It is strongly recommended that service ducts are shared across the service providers to limit further ground works and site disturbance.
- 3.5.1 Proposed service runs should be designed with full consideration to the guidance and recommendations of National Joint Utilities Guidelines No.10 – Volume 04: *Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees* and avoid the notional RPA of retained trees in all circumstances, in the first instance.
- 3.5.2 We do not anticipate that any new services for plots 4, 5 and 6 will be positioned through the notional RPA of any retained tree.

#### **3.6 Erection of tree protection barriers and laying of non-compacting ground protection**

- 3.6.0 In order to safeguard the retained trees adjacent to the site, it will be necessary to erect tree protective barriers prior to the commencement of works on site and to ensure that they remain in-situ for the duration of the project, unless otherwise directed.
- 3.6.1 We consider that the retained brick masonry wall/ retaining wall will be sufficient for the purposes of protection barriers.
- 3.6.2 The proposals presently do not necessitate the installation of non-compacting ground protection.

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### **3.0 SUMMARY OF IMPLICATIONS ASSESSMENT (Continued...)**

#### **3.7 Shading of retained tree/s**

3.7.0 Due to the location of the third party trees, orientation of the site and the positioning of the existing dwelling and proposed residential plots in relation to the eight Category B trees, shading caused by trees T01 – T08 will not affect any of the residential dwellings of plot 1, 2, 3, 4, 5 and 6. That said, the cardinal position of the two Category C trees; T09 and T10 will affect both plots 5 and 6, but will be limited to the rear gardens only during the morning hours, as such the constraint caused by them shall be transient.

3.7.1 Other 'common nuisance' issues such as leaf litter, flowers and sap can be addressed through careful and site-specific design including: filtration for rainwater guttering of either mesh or "bristle" inserts; the incorporation of discreet ladder attachment points under the eaves; sufficient clearance between the edge of the roof and the guttering to facilitate ease of maintenance; fitting the downpipes with easily cleanable traps.

3.7.2 Further design features can be roof lighting, wider bay windows and doors, or reviewing the orientation of floor plans and living spaces where sunlight is more desirable to ensure natural and ambient light reaches these spaces.

#### **3.8 Potential growth and/or nuisance of retained trees**

3.8.0 The designers should be minded that 2x third party trees T09 and T10 will continue to grow, and due to their poor rooting environment will require management.

3.8.1 Leaf fall must be considered at this stage, as drains and guttering would potentially be affected by fallen leaves/needles, particularly during autumn months. As a result, the installation of gutter guards is considered to be pertinent to nuisance mitigation.



## 4.0 APPRAISAL OF TREE LOSS & RETENTION

### 4.1 Table 5: Summary of trees

BS: 5837 Category	Remove	Retained		Total
		Tree work	No works	
<b>A</b>	0	0	0	0
<b>B</b>	0	2	6	8
<b>C</b>	0	0	0	2
<b>U</b>	0	0	0	0
<b>Total</b>	0	2	6	10

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## **APPENDIX 1 LIMITATIONS OF REPORT**

### **Limitations of the Arboricultural Implications Assessment**

This assessment is based upon information obtained from the BS: 5837 Tree Survey.

All dimensions and measurement are based upon previously obtained data the BS: 5837 Tree Survey and from drawings provided to Bartlett Consulting.

This assessment considers the possible implications to the proposed built structures. Suggestions from an arboricultural perspective may be provided outlining an alternative site layout. Such suggestions must be considered by the project Architect/Designer/or Engineer before implementing any suggestions.

### **Data on which the assessment is based**

Validity, accuracy and findings of the report are directed by the accuracy of information provided to Bartlett Consulting at the time of conducting the tree survey and during report writing.

Checking of independent data/information will not be undertaken, with particular reference given to scaled maps and drawings provided to Bartlett Consulting

### **Validation of the assessment**

The assessment considerations/findings in this report remain valid for a period of one year, from the date of issuance.

Such considerations/findings will become invalid if any building works are undertaken, soil levels altered, or any unsolicited tree works undertaken.

If any alterations to the existing building structures, or soil levels, or if any unsolicited tree works have been completed, it is the recommendation of Bartlett Consulting that a new BS: 5837 Tree Survey/report is undertaken to reflect these changes.

### **Tree in relation to other properties**

This assessment only considers the trees in relation to the site and the proposed structures within it, as identified.

The assessment does not comment upon trees in relation to structures beyond the boundaries of the site as identified (third party properties).

Consideration of potential impact upon neighbouring built structures may be provided if pertinent, in the instances where boundary tree planting is proposed/required.

Damage to, or potential damage to, any other built structures that is not referred to within this report are not considered, unless otherwise stated. This includes both neighbouring structures as well as any other structure on the site.

### **Trees in relation to subsidence, heave and direct damage**

This report does not deal with matters concerning subsidence or heave to any existing built structure on or neighbouring the site. It may be prudent to consider the effects of heave on any built structure if trees are to be removed.

Similarly, the issue of direct damage (physical damage caused by tree roots) is not dealt with in this report.

### **Tree subject to statutory controls**

Whilst Bartlett Consulting has made attempts to ascertain if any of the trees subject to this report are 'protected', their status is always subject to change. Therefore, the final responsibility for checking statutory protection for trees rests with the employed contractor and not with Bartlett Consulting

Any prescribed tree works to a protected tree are provided due to perceived hazard and risk, and should be considered acceptable by the Local Planning Authority (LPA). However appropriate notification must still be provided to the LPA as they may take an alternative point of view.

### **Trees are subject to environmental factors**

The statements, findings and preliminary recommendations made within this report do not take into account any effects of extreme climate and weather incidences, vandalism, changes in the natural and built environment around the tree(s) after the date of this report, nor any damage whether physical, chemical or otherwise.

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## APPENDIX 2 REPORT REFERENCES

As a progressive company, we keep abreast of research data relating to Arboriculture. All observations, recommendations and works are based on current industry standard reference material and a selection of pertinent items is shown below.

This survey and report have evolved from industry material including the following:

- BS 5837: (2012) *Trees in Relation to Design, Demolition and Construction – Recommendations*
- BS 3998: (2010) *Tree Works - Recommendations*
- Town & Country Planning Act (Tree Preservation) (England) Regulations 2012
- Town & Country Planning Act (As amended) 1990
- Mattheck, C, Bethge K, Weber K. (2015) *The Body Language of Trees – Encyclopaedia of Visual Tree Assessment*. Karlsruhe Institute of Technology Campus North.
- National Joint Utilities Group (2007) *Publication Volume 4: Issue 2 Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees.*
- National House Building Council Standard, Part 4.2 – *Building Near Trees*

Bartlett Consulting's arboricultural expertise has been used to interpret these references for practical application to the site and the trees which are the subject of this report, and to provide the most appropriate advice and guidance at this stage of project planning.

## APPENDIX 3 TREE PROTECTION PLANNING

The draft Tree Protection Plan (dTPP) referenced JPL/220329/DTPP can be found as an appendix at the end of this report. The TPP has been prepared in accordance with Section 7.1 of British Standard 5837:2012.

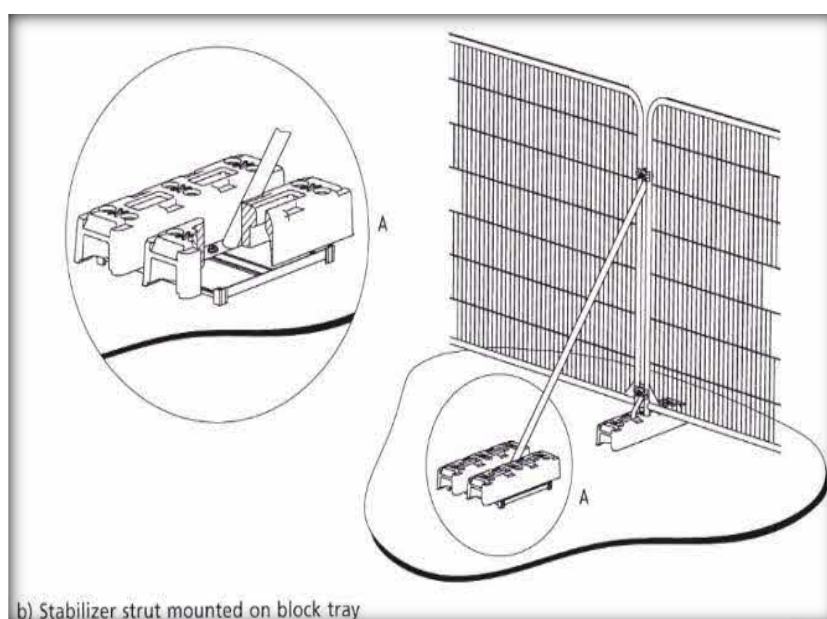
Either tree protective fencing or ground protection will be required to safeguard the trees against damage which may be sustained throughout redevelopment of the site, and this plan is indicative of the anticipated locations and/or zone of tree protection measures. The DTPP has also been annotated to show indicative locations where, from an Arboricultural perspective, there is free space for the various demolition and construction requirements as well as site huts, outside of the zone of influence for tree protection & preservation.

The DTPP has been drafted at this early stage to inform the client and landowners of these requirements, as well as illustrate how the tree protection measures and tree constraints may influence the free space around the site once development commences.

**Vertical Barriers:** physical protection measures for the retained trees, which will ensure that the designated RPA becomes an exclusion zone during any stage of development. Fencing will prevent machinery, men, materials, and other site activities from occurring within the RPA or damaging the tree crown.

Vertical barriers should be fit for the purpose of excluding construction activities, and appropriate to the degree and proximity of the site operations. A final specification will be provided once the layout has been finalised and agreed by all parties. An illustration has been included below for reference.

The vertical barriers shall completely exclude access during all phases of site operations. The protected areas shall not be used for the storage of materials or spoil, nor for the mixing of substances or the disposal of any residues. Materials, equipment and arising debris will not be stacked against the vertical barrier, even temporarily. A4 sized Notice Signs must be laminated and attached to the vertical barrier at regular intervals so all visitors and operatives are aware of the tree protection requirements.



*Figure 1: Illustration of vertical tree protection barrier*

- Once erected, the tree protection will be sacrosanct and must not be moved or adjusted during any stage of site operations without the prior written consent of Dacorum Borough Council and Bartlett Consultancy.

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We trust that the contents and recommendations contained within this report were informative, easy to understand and helpful to you, with regards to managing your tree. Should you have any further questions or concerns, please do not hesitate to contact us again.

**REPORT CLASSIFICATION:** BS: 5837 Arboricultural Implications Assessment & Draft Tree Protection Plan

**REPORT STATUS:** Final

**REPORT COMPLETED BY:** Mr James Percy-Lancaster *CertArb (Lv.4) TechArborA*  
**Senior Arboricultural Consultant**

**SIGNATURE:**



**DATE:** 20<sup>th</sup> September 2022

**UPDATED:** 24<sup>th</sup> May 2023

**REPORT REVIEWED BY:** Ruth Le Poidevin  
Consultancy Administrator

**SIGNATURE:**



**DATE:** 21<sup>st</sup> September 2022