

Landmark Trees

TREE VALUATION REPORT:

Hillingdon Hospital
Pield Heath Road
Uxbridge
UB8 3NN

INSTRUCTING PARTY:

The Hillingdon Hospitals NHS Foundation Trust
Pield Heath Road
Uxbridge
UB8 3NN

REPORT PREPARED BY

Adam Hollis
MSc ARB MICFor FArbor A MRICS C Env

Ref: HFT/THH/TVR/01

Date: 3rd September 2024

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1 Introduction

Landmark Trees were asked to identify the 2 trees affected by the proposed works and provide an indication of their quality. As a basic indication of quality, size, condition and location, a tree survey and schedule are enclosed with this report. The survey finds T1 & T2 to be a western red cedar and Lawson cypress of moderate (category B) and low quality (category C) respectively. T1 essentially has nothing wrong with it but the cypress has multiple stems rather than one clear leader. It was felt a more detailed financial valuation would be helpful in teasing out the implications of removal. London Borough of Hillingdon have previously requested such valuations for trees to be removed from the hospital site for development.

This valuation of the trees proposed for removal at the above site is produced for planning purposes, to assess public amenity loss using primarily a depreciated replacement cost (DRC) appraisal methodology, namely CAVAT (Capital Asset Value for Amenity Trees). The method is *recognised by RICS in their Valuation Information Paper 10* of which I was contributing editor. I am also the UK representative to the International Society of Arboriculture's Plant Appraisal and Valuation Committee which provides guidance on CTLA methods. CAVAT is the preferred method of valuation for the London Tree Officers Association. This method was chosen in light of these factors.

CAVAT (Capital Asset Value for Amenity Trees) provides a basis for managing trees in the UK as public assets rather than liabilities. It is designed not only to be a strategic tool and aid to decision-making in relation to the tree stock as a whole, but also to be applicable to individual cases, where the value of a single tree needs to be expressed in monetary terms.

CAVAT allows the value of a tree to be assessed by extrapolation from the cost of a newly planted standard tree, using the ratio between their respective trunk areas as the critical measurement. The CAVAT value allows for the contributions, positive and negative, of the tree's location, relative contribution to amenity social value and appropriateness, as well as functionality and life expectancy. Essentially, the basic value is modified by a consideration of the impact of those factors that determine the quantum of general amenity benefit. The factors which are essentially related to "wear and tear" on the tree, including a shortened life expectancy, are dealt with in terms of depreciation. On the other hand, factors based on variation from an arithmetic mean, (for example the particular benefits that flow from the characteristics of the species in question) allow for either a potential increase or decrease in value.

It is intended particularly for councils and other Public Authorities and primarily for publicly owned trees. However, it may be used by other public bodies, including the Courts, private institutions and individuals. It complements other tools of arboricultural analysis, such as single tree hazard assessment systems. So far as possible it draws upon objective evidence and published data, but it also relies on expert arboricultural knowledge and in some cases assessments that are specific to CAVAT.

The Town and Country Planning Act 1990 (sections 198 & 199) establishes that trees have value as a public amenity and that local planning authorities have a duty to act to protect trees in the public interest. The legislation itself does not specify how their amenity is to be assessed, leaving it open for the value of trees to be expressed in the most appropriate way for the intended purpose, and not necessarily in monetary terms. Because CAVAT is specifically designed as an asset management tool for trees that are publicly owned, or of public importance, it expresses value in monetary terms, and in a way that is directly related to the quantum of public benefits that each particular tree provides. Applied to the tree stock as a whole it enables it to be managed as if it were a financial asset of the community. Applied to single trees it both values the subject tree and allows a comparison to be made with the value of other public trees. CAVAT complements other forms of assessment of trees' amenity. CAVAT is based upon an expert inspection and assessment of individual trees. In this case, it has drawn upon Landmark Trees' Arboricultural Impact Assessment report, SKS_LRA_AIA_01b, integrating with the wider survey of the tree stock at the Barnes Hospital site.

CAVAT takes the replacement value approach, extrapolating from known planting costs and adjusting for a series of relevant factors such as the contributions, positive and negative, of the tree's location, relative contribution to amenity, social value and appropriateness, as well as functionality and life expectancy. Essentially, the basic value is modified by a consideration of the impact of those factors that determine the quantum of general amenity benefit. The factors which are essentially related to "wear and tear" on the tree, including a shortened life expectancy, are dealt with in terms of depreciation. On the other hand, factors based on variation from an arithmetic mean, (for example the particular benefits that flow from the characteristics of the species in question) allow for a either a potential increase or decrease in value.

The assessment has been refined to allow the final value to reflect realistically the contribution of the tree to public welfare through tangible and intangible benefits. The basis of CAVAT is that the cross-sectional area of a tree's trunk is linked to overall crown size, in a healthy tree where growth has not been interrupted or compromised.

It should be noted that as well as CAVAT there are other different industry standard accepted valuation systems – including the Helliwell System (the visual amenity of a tree / woodland is assessed under a number of categories, arriving at a score which is converted to monetary value through a regularly updated conversion factor) and the CTLA system (uses valuation methods from the Council of Tree and Landscape Appraisers in the US, to provide discounted replacement costs). The three systems often result in widely varying results, and it may be noted that reconciliation / comparison of the Helliwell and CTLA systems not atypically produce sums of 10% and 30% of CAVAT value.

2 Valuation of Tree Using CAVAT Method

In this instance, there are 2 trees that may need to be removed - full details are provided in the spreadsheets and survey sheets included in the appendices.

In accordance with the LTOA's guidance, the CTI Value for Hillingdon is 125 and the most recently updated unit cost is £24.59 per m2. The total CAVAT valuation for the 2 trees is **£19,407**.

3 Mitigation

The appraiser's task is to provide an indication of value to aid decision makers. It is for these latter to determine whether the loss of the 2 existing trees and proposed planting of new trees (with an assumed 18-20cm girth, equivalent to the size achieved in 5 years by extra heavy standard trees planted at 14 -16cm girth increasing in girth by a minimum 25mm per year overall) is reasonable to both parties and supported by expert opinion. It should be borne in mind that the new planting will be nursery grown and all be in good condition, whereas the existing stock are generally low quality. The new tree stock will continue to grow and increase in value providing long term amenity, however, as is evident from the CAVAT spreadsheets, the life expectancy of a number of the existing trees is limited.

4 new trees would need to achieve a CAVAT value of £4, 852 each to achieve financial parity with the appraised loss. As trees are growing organisms, it is reasonable to expect that parity be achieved not instantly but over time, nominally in 15-20 years, though trees planted today should reasonably be expected to continue to grow and exceed that value for >80 years on an urban site. An 18-20cm girth tree would have a CAVAT value of c. £435 (assuming a 50% visibility factor if planted in a more open part of the site and full functional value) and take c. 15 years to achieve parity with the appraised sum at minimal growth rates (c.25mm/ year). Young healthy trees planted to best practice should though be expected to achieve much more vigorous growth, possibly even doubling their mature rate, bringing parity within view of a 10-year window. On this basis, the temporary loss in value can be mitigated adequately in landscape proposals.

Signed

Yours sincerely



Adam Hollis
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Chartered Forester
Fellow & Registered Consultant of Arboricultural Association

Adam Hollis MSc ARB MICFor FArbor A

3rd September 2024

For and on behalf of **Landmark Trees**

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APPENDIX 1: PUBLIC VISIBILITY



Photograph 1: Lack of public visibility of T1 and T2 (Source: Apple Maps)

APPENDIX 2: INDIVIDUAL CAVAT TREE VALUATIONS

CAVAT Full method

Spreadsheet to calculate the asset value of individual trees using the Full method

NOTES

Enter data in grey boxes.
Data in other boxes are calculated automatically.
Hover cursor over red triangles for guidance notes.

Date: 07/08/2024

Name: Adam Hollis

Tree ID: 1

Tree Species: Western Red Cedar

Location: Hillingdon Hospital Phase 3

STEPS	DATA INPUT	CALCULATED DATA	COMMENTS
Step 1: Base Value			
Stem diameter (cm)	45		
Unit Value Factor (UVF)	£24.59		
Link to latest Unit Value Factor			
BASE VALUE		£39,109	
Step 2: CTI			
Community Tree Index (CTI) Factor	125%		
Link to CTI factors spreadsheet			
Step 3: Visibility			
Visibility Factor	25%		
Step 4: Attributes			
Positive Attributes Factor	0%		
Negative Attributes Factor	0%		
Overall attributes factor		100%	
LOCATION VALUE		£12,221	
Step 5: Primary structure completeness			
Primary structure completeness factor	>75%		
Step 6: Primary structure quality			
Primary structure quality factor	Excellent		
Step 7: Crown completeness			
Link to Crown completeness calculator			
Crown completeness factor		100%	
8. Canopy completeness			
Canopy completeness factor	81-100%		
Step 9: Crown and canopy quality			
Crown quality factor	Excellent		
FUNCTIONAL VALUE		£12,221	
Step 10: Life Expectancy			
Life expectancy	>80 years		
CAVAT VALUE		£12,221	

CAVAT Full method

Spreadsheet to calculate the asset value of individual trees using the Full method

NOTES

Enter data in grey boxes.
 Data in other boxes are calculated automatically.
 Hover cursor over red triangles for guidance notes.

Date: 07/08/2024

Name: Adam Hollis

Tree ID: 2

Tree Species: Cypress, Lawson

Location: Hillingdon Hospital Phase 3

STEPS	DATA INPUT	CALCULATED DATA	COMMENTS
Step 1: Base Value			
Stem diameter (cm)	42		
Unit Value Factor (UVF)	£24.59		
Link to latest Unit Value Factor			
BASE VALUE		£34,068	
Step 2: CTI			
Community Tree Index (CTI) Factor	125%		
Link to CTI factors spreadsheet			
Step 3: Visibility			
Visibility Factor	25%		
Step 4: Attributes			
Positive Attributes Factor	0%		
Negative Attributes Factor	-10%		Multistem suckering
Overall attributes factor		90%	
LOCATION VALUE		£9,582	
Step 5: Primary structure completeness			
Primary structure completeness factor	51-75%		
Step 6: Primary structure quality			
Primary structure quality factor	Fair		
Step 7: Crown completeness			
Link to Crown completeness calculator			
Crown completeness factor		100%	
8. Canopy completeness			
Canopy completeness factor	81-100%		
Step 9: Crown and canopy quality			
Crown quality factor	Excellent		
FUNCTIONAL VALUE		£7,186	
Step 10: Life Expectancy			
Life expectancy	>80 years		
CAVAT VALUE		£7,186	

APPENDIX 3: TREE SURVEY SCHEDULE



Site: Project 3, Hillingdon Hospital

Date 07/08/24

Appendix 1

BS5837 Tree Constraints Survey

Landmark Trees Ltd

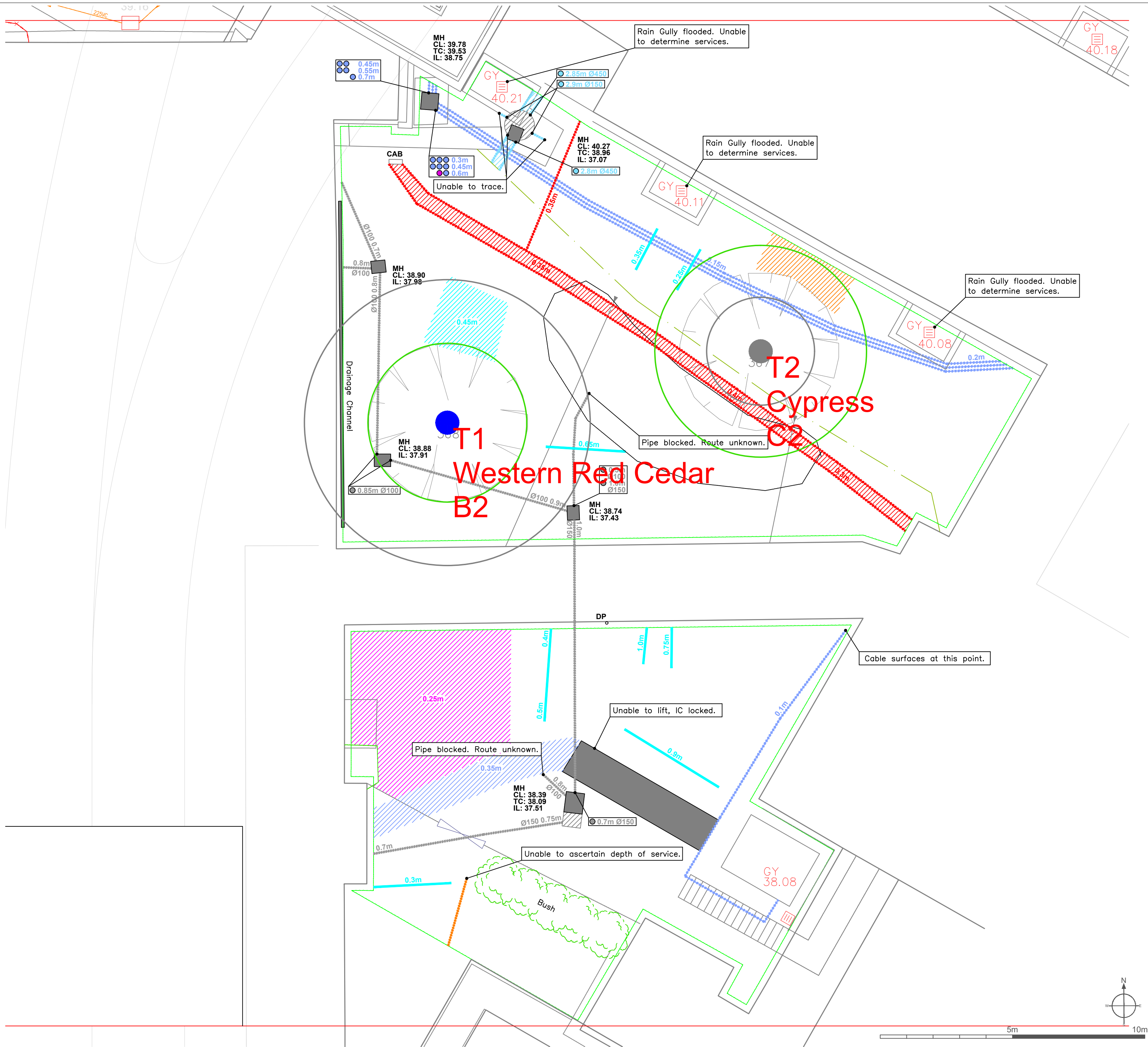
020 7851 4544

Surveyor(s) Adam Hollis

Ref: /AIA

Tree No.	English Name	Height	Crown Sprea	Ground Clearance	Stem Diamete	Age Class	Protection Radius	Growth Vitality	Structural Condition	B.S. Cat	Sub Cat	Useful Life	Comments
1	Western Red Cedar	12	3	0.0	450	Early Mature	5.4	Normal	Fair	B	2	40+	Not entirely suitable species given large final size
2	Cypress, Lawson	12	4	0.0	416	Semi-mature	5.0	Moderate	Fair	C	2	20+	Sprawling, erratic habit Lost lead stem Drought stress

APPENDIX 4: TREE SURVEY PLAN




NOTE:

This survey is of a preliminary nature. The trees were inspected from the ground only on the basis of the Visual Tree Assessment method. No samples were taken for analysis. No decay detection equipment was employed. The survey does not cover the arrangements that may be required in connection with the laying or removal of underground services.

Branch spread in metres is taken at the four cardinal points to derive an accurate representation of the crown.

Root Protection Areas (RPA) are derived from stem diameter measured at 1.5 m above adjacent ground level (taken on sloping ground on the upslope side of the tree base).



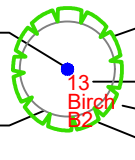
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Site: Hillingdon Hospital, Project 3		1:100@ A2
Drawing Title: Tree Constraints Plan		August 2024

Key:

- Category A High Quality
- Category B Moderate Quality
- Category C Low Quality
- Category U Trees Unsuitable for Retention

Category



Crown Spread

Tree Number

Species

Category