Arboricultural Addendum
CAVAT Assessment
December 2022
ABERFELDY VILLAGE MASTERPLAN

TIM MOYA ASSOCIATES

Arboricultural Report

CAVAT Assessment for 2021/1213 & 2022/0193

Aberfeldy Estate
London
E14 0NU

December 2022

220254-PD-91

Project Reference	220254-PD-91 – Aberfeldy Village (including Jolly's Green)
Report Type	Arboriculture (Planning)
Author	Chris Wright
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1 INTRODUCTION

Instruction

1.1 This *Arboricultural Report* ('the Report') has been instructed by *EcoWorld London* ('the Client').

Definitions

1.2 The following particular terms and abbreviations may be used within this Report. These terms are defined by BS5837[1] as follows, unless provided without quotation marks:

- **Capital Asset Value for Amenity Trees** ('CAVAT') - CAVAT 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.
- **Local Planning Authority** ('LPA') - the planning department of the borough, district, or metropolitan council.

Scope

1.3 This Report has been prepared to respond to the comments raised (hereafter referred to as 'the Response') by the *Greater London Authority* ('the GLA') for cases *2021/1213* and *2022/0193* (hereafter both are assumed as one and referred to as 'the Case'). This Report outlines the CAVAT values of the trees specified for removal and the CAVAT value of those specified to be planted, and provides a comparison between the two figures with an associated discussion.

1.4 Specifically, this Report has been prepared in response to the Response, which states as follows: "*The previous comments also requested that the applicant should review the trees lost and proposed further to reduce the impact of the loss as the Tree Survey and Arboricultural Assessment Addendum stated that new tree planting is considered to mitigate this loss, after approximately 20-25 years", which is considered to be a long period and does not appear to be an adequate replacement as stated in Policy G7. The applicant has provided an Arboricultural Addendum report which states that alterations to design are considered to be positive in overall arboricultural terms. However, the applicant does not appear to have recalculated the CAVAT values to determine the value of the trees to be lost using the appropriate valuation system and set out how this has been accounted for through replacement tree planting within a reasonable timescale, such as 15-20 years to allow proposed trees to establish and mature. This should be provided as soon as possible.*"

1 - BSI. (2012) BS 5837: Trees in relation to design, demolition and construction - Recommendations. UK: British Standards Institution.

1.5 For clarity, the reference number for the same Case as is being administrated by the LPA is *PA/21/02377/A1* ('the Proposed Development'). Therefore, this Report must be read in conjunction with the details submitted for the Proposed Development. In particular, this Report must be read in conjunction with the following documents:

- *Arboricultural Impact Assessment* (*T5574 V3.0* - provided by *ArbEco* for the main estate area);
- *Arboricultural Impact Assessment* (*220254-PD-11a* - provided by *TMA* for the *Jolly's Green* area);
- *Design and Access Statement: The Masterplan Revision A* (*3663-LB-ZZ-XX-RP-A-500100* - specifically, *Section 7* from page 312); and
- *Design and Access Statement: The Masterplan Revision A Addendum* (no document reference).

Author

1.6 This Report was written by Christopher Wright ('the Author'). Christopher is an arboricultural consultant dealing with trees in relation to all forms of human activity including built development. He is a *Technician Member* of the *Arboricultural Association*, a member of the *Royal Forestry Society*, a member of the *Institute of Chartered Foresters*, holds the *Level 6 Diploma in Arboriculture* (*ABC*), the *Professional Tree Inspection* certificate (*LANTRA*), and has received a *BSc (Hons) Conservation and Environment (2:1)* from *Writtle University College*.

2 CAVAT CALCULATIONS

Existing tree value

Precursory scope information

2.1 This Report combines CAVAT values for trees specified for removal within both arboricultural reports that have been submitted as part of this Proposed Development (of which both are listed at paragraph 1.5).

2.2 The CAVAT values for the trees specified for removal as part of the *ArbEco* report have been estimated with what is considered to be a reasonable degree of accuracy. Some standardised numerical allocations for particular aspects of the CAVAT calculation process have been assigned to trees, such as for the extent to which trees have been pruned or otherwise managed. It is considered that the individual and combined CAVAT values for these trees are fair and reasonably reflective of the situation.

2.3 By comparison, the CAVAT values for the trees specified for removal in the *Jolly's Green* area (wherein these trees were surveyed by the Author as part of the *TMA* report) are more precise.

Calculated CAVAT value

2.4 The value attributed to the existing trees that are specified for removal within the *ArbEco* area is £3,046,392. This value is provided in tabular format at Appendix A.

2.5 The value attributed to the existing trees that are specified for removal within the *TMA* area is £585,801. This value is provided in tabular format at Appendix B.

2.6 The combined value of all tree that are specified for removal is £3,632,193.

Proposed tree value

Precursory scope information

2.7 The Proposed Development specifies the planting of 406no. trees, within the public realm (i.e., at ground level). The Proposed Development also specifies the planting of 47no. trees on podiums (or terraces), though these trees are not strictly considered in the context of CAVAT (wherein it affects 'public' trees). Consequently, this Report focusses exclusively on the 406no. trees that are specified for planting within the street scene - the remainder are considered as private assets.

2.8 Given that the Proposed Development largely comprises an Outline planning application, details pertaining to tree species and sizes are currently indicative. The details pertaining to trees that are to be planted are provided within the *Design and Access Statement: The Masterplan Revision A* (as is referenced at paragraph 1.5). For the sake of efficiency, it is assumed as follows:

- that there is a 50/50 split of larger and smaller trees;
- larger trees comprise species that can attain large mature forms;
- smaller trees may include multi-stemmed trees;
- larger trees will be planted with a stem diameter of 6cm; and
- smaller trees will be planted with a stem diameter of 4cm.

2.9 The extent to which this Report projects future tree value extends to 15no. and 20no. years into the future, which comprises both the lower and upper end of the range requested by the GLA. Therefore, for planted trees within the public realm, this Report provides 3no. values:

- Year 0 value (i.e., value at the time of transplanting);
- Year 15 value (i.e., estimated value after 15 years of successful growing); and
- Year 20 value (i.e., estimated value after 20 years of successful growing).

Assumed growth rate

2.10 CAVAT calculations are based on a number of factors, though the starting point is stem size. Anticipating the growth rate of the stem sizes of trees is difficult and prone to significant fluctuation - particularly, in urban areas (as is the case in this instance). Consequently, there is generally understood to be a wide range as regards the rate a tree stem may grow. In some cases, trees may grow at a rate of 1cm (or greater) increase in diameter each year, though in other cases it may be as little as 0.25cm increase in diameter each year.

2.11 To further complicate matters, this rate is affected by influencing factors that may temporarily or permanently limit it. Some notable factors in this instance include:

- tree species (trees inherently grow at different rates);
- transplanting stress (trees are usually subject to 'shock' after transplanting, often for up to 3no. years - larger trees are usually subject to a greater degree of 'shock');
- soil space and aftercare (trees require theoretically unlimited soil to grow within and need to be cared for once planted via irrigation, for ideally up to 5no. years); and

- morality (some trees die after transplanting, which is normal but is significantly reduced by appropriate aftercare - in particular, effective irrigation).

2.12 In the context of this Report, noting that the area is urbanised and that the trees to be planted are not yet confirmed in size nor species, a series of estimations of a stem diameter increase of 0.5cm, 0.75cm, and 1.0cm per tree per year is assumed - this applies only for the larger trees, with the rate for smaller trees being a non-variable rate of 0.5cm.

2.13 This approach to calculation is considered to buffer against the current unknowns and the effects that any mortality rate and transplanting stress may have on an assumed greater growth rate (i.e., it's considered to be a 'sense-check'), though it does operate on the basis of the following assumptions (note: the LPA can require adherence to the following by way of attaching a suitable planning condition to the *Decision Notice*):

- that all trees are actively and effectively irrigated for up to 5 years (to reduce the risk of stress and mortality); and
- that trees that die (should any die) are replaced like-for-like with a tree of the same species and size (and thereafter actively managed for 5 years after the date of planting).

Assumed life expectancy

2.14 The life expectancy of the larger trees is considered to be between 40-80 years in all calculations, whereas for the smaller trees it is assumed to change from 20-40 years at *Year 0* to 10-20 years at *Year 20*. This is only an assumption of this Report, though the calculations have been undertaken with this in mind for the sake of efficiency and prudence.

Calculated CAVAT value

2.15 The value attributed to the 406no. trees that are specified for planting within the public realm are provided below (these values are provided at Appendix C):

- Year 0: £380,016;
- Year 15 (0.5 / 0.75 / 1.0 growth rates): £1,538,537 / £2,805,460 / £3,951,598.00; and
- Year 20 (0.5 / 0.75 / 1.0 growth rates): £2,627,835 / £4,022,851 / £5,795,041.

2.16 At the point that the Proposed Development is fully implemented (including tree removals and tree planting - i.e., Year 0), there is a negative difference in CAVAT terms of £3,252,177. Hereafter, negative values are shown in red (with a '-' symbol before the GBP sign) and positive values in green.

2.17 After a period of 15 years, it is considered that this value will alter to (based on the 3no. different growth rates): -£2,093,656 / -£826,733 / £319,405.

2.18 After a period of 20 years, this value will further alter to (again based on the 3no. different growth rates): -£1,004,358 / £390,658 / £2,162,848.

2.19 For the sake of clarity, noting that CAVAT values for trees at *Year 15* and *Year 20* are presented as a range, it is likely that the change in CAVAT value by *Year 20* will comprise a modest gain. It is considered to be most likely that the growth rate of the larger trees will be in the region of 0.75cm diameter increase per year, which would result in a net gain of £390,658. However, should the larger trees grow more quickly then there may be a net gain in CAVAT terms by *Year 15*. It is considered unlikely that the larger trees will grow at such a slow rate that there is no net gain by *Year 20*.

2.20 It must also again be noted that the actual sizes of trees to be planted, as well as the species of these trees, are not details that have been confirmed. As the size of trees being planted is considered to be on the conservative end, it may be the case that there is a break-even in CAVAT terms after a shorter period of time, should trees of larger sizes be planted at *Year 0*.

3 CONCLUSION

3.1 Based on the calculations presented within this Report, the Proposed Development is considered likely to be able to provide a net gain in CAVAT terms between *Year 15* and *Year 20*.

3.2 In terms of the comments provided by the GLA in their Response to the Case, this Report considers that there are no relevant outstanding matters as regards trees.

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APPENDIX A - ArbEco values

- CAVAT (ArbEco)

APPENDIX B - TMA values

- CAVAT (TMA)

APPENDIX C - New tree values

- CAVAT calculations

APPENDIX A - ArbEco values

- CAVAT (ArbEco)

Project: Aberfeldy Estate (ArbEco)

Name of Surveyor: CW

Date: 21/12/2022

CAVAT

CALCULATE VALUE OF TREE STOCK

CTI Factor (Please select): 250

Unit Value Factor 18.44

Cumulative Total: **£ 3,046,392**

Created by Alexandra Sleet and Phillip Handley

Tree Information			Step 1: Basic Value											Step 2: CTI Value		Step 3: Locational Value		Step 4: Structural Value		Step 5: Functional Value		Step 6: Amenity Value		Step 5: Final Value	FINAL VALUE
Tree No.	Species ID	Location (I.e near tree no. 1)	Stem Diameter (1)	Stem Diameter (2)	Stem Diameter (3)	Stem Diameter (4)	Stem Diameter (5)	Stem Diameter (6)	Stem Diameter (7)	Stem Diameter (8)	Stem Diameter (9)	Stem Diameter (10)	Basic Value	CTI Factor (Please select)	CTI Value	Accessibility Factor (Please select)	Location Value	Structural Factor (Please select)	Structural Value	Functional Factor (Please select)	Functional Value	Amenity Factor (Please select)	Amenity Value	Life Expect. Factor (Please select)	
1																									
2																									
3																									
4																									
5	Wild cherry	Aberfeldy Estate	46										£ 30,645	250	£ 76,614	100	£ 76,614	80	£ 61,291	100	£ 61,291	10	£67,420	20 - <40	£53,936
6	Wild cherry	Aberfeldy Estate	46										£ 30,645	250	£ 76,614	100	£ 76,614	80	£ 61,291	100	£ 61,291	10	£67,420	20 - <40	£53,936
7	London plane	Aberfeldy Estate	95										£ 130,707	250	£ 326,767	100	£ 326,767	50	£ 163,383	100	£ 163,383	20	£196,060	40 - <80	£186,257
8	London plane	Aberfeldy Estate	86										£ 107,114	250	£ 267,786	100	£ 267,786	50	£ 133,893	100	£ 133,893	20	£160,672	40 - <80	£152,638
9	Wild cherry	Aberfeldy Estate	56										£ 45,418	250	£ 113,545	100	£ 113,545	80	£ 90,836	100	£ 90,836	10	£99,919	20 - <40	£79,935
10	Apricot	Aberfeldy Estate	50										£ 36,207	250	£ 90,517	100	£ 90,517	80	£ 72,414	100	£ 72,414	10	£79,655	20 - <40	£63,724
11	Plum	Aberfeldy Estate	32										£ 14,830	250	£ 37,076	100	£ 37,076	80	£ 29,661	100	£ 29,661	10	£32,627	20 - <40	£26,101
12	Lawson cypress	Aberfeldy Estate	12										£ 2,086	250	£ 5,214	100	£ 5,214	80	£ 4,171	100	£ 4,171	10	£4,588	20 - <40	£3,671
13	False acacia	Aberfeldy Estate	50										£ 36,207	250	£ 90,517	100	£ 90,517	80	£ 72,414	100	£ 72,414	10	£79,655	20 - <40	£63,724
14	Elderberry	Aberfeldy Estate	15										£ 3,259	250	£ 8,147	100	£ 8,147	80	£ 6,517	100	£ 6,517	10	£7,169	20 - <40	£5,735
15	Norway maple	Aberfeldy Estate	45										£ 29,328	250	£ 73,319	100	£ 73,319	80	£ 58,655	50	£ 29,328	0	£29,328	5 - <10	£8,798
17	London plane	Aberfeldy Estate	64										£ 59,321	250	£ 148,303	100	£ 148,303	80	£ 118,643	100	£ 118,643	20	£142,371	40 - <80	£135,253
18	Lime	Aberfeldy Estate	28										£ 11,354	250	£ 28,386	100	£ 28,386	80	£ 22,709	100	£ 22,709	10	£24,980	40 - <80	£23,731
19	Lime	Aberfeldy Estate	41										£ 24,345	250	£ 60,864	100	£ 60,864	80	£ 48,691	100	£ 48,691	10	£53,560	40 - <80	£50,882
20	Lawson cypress	Aberfeldy Estate	40										£ 23,172	250	£ 57,931	100	£ 57,931	80	£ 46,345	100	£ 46,345	10	£50,979	20 - <40	£40,783
21	Elderberry	Aberfeldy Estate	15										£ 3,259	250	£ 8,147	100	£ 8,147	80	£ 6,517	100	£ 6,517	10	£7,169	10 - <20	£3,943
22	Wild cherry	Aberfeldy Estate	55										£ 43,810	250	£ 109,526	100	£ 109,526	80	£ 87,621	100	£ 87,621	10	£96,383	10 - <20	£53,010
23	Field maple	Aberfeldy Estate	12										£ 2,086	250	£ 5,214	100	£ 5,214	80	£ 4,171	100	£ 4,171	10	£4,588	10 - <20	£2,523
26	False acacia	Aberfeldy Estate	45										£ 29,328	250	£ 73,319	100	£ 73,319	80	£ 58,655	100	£ 58,655	10	£64,521	20 - <40	£51,616
29	False acacia	Aberfeldy Estate	45										£ 29,328	250	£ 73,319	100	£ 73,319	80	£ 58,655	100	£ 58,655	10	£64,521	20 - <40	£51,616
30	Norway maple	Aberfeldy Estate	50										£ 36,207	250	£ 90,517	100	£ 90,517	80	£ 72,414	100	£ 72,414	10	£79,655	40 - <80	£75,672
31	Norway maple	Aberfeldy Estate	48										£ 33,368	250	£ 83,421	100	£ 83,421	80	£ 66,736	100	£ 66,736	10	£73,410	10 - <20	£40,376
32	Norway maple	Aberfeldy Estate	48										£ 33,368	250	£ 83,421	100	£ 83,421	80	£ 66,736	100	£ 66,736	10	£73,410	10 - <20	£40,376
33	London plane	Aberfeldy Estate	94										£ 127,970	250	£ 319,924	100	£ 319,924	80	£ 255,939	100	£ 255,939	20	£307,127	40 - <80	£291,770
34	London plane	Aberfeldy Estate	85										£ 104,638	250	£ 261,595	100	£ 261,595	80	£ 209,276	100	£ 209,276	20	£251,131	40 - <80	£238,574
35	London plane	Aberfeldy Estate	79										£ 90,387	250	£ 225,967	100	£ 225,967	80	£ 180,774	80	£ 144,619	20	£173,543	40 - <80	£164,866

137	London plane	Aberfeldy Estate	52										£ 39,161	250	£ 97,903	100	£ 97,903	80	£ 78,323	100	£ 78,323	20	£93,987	40 - <80	£89,288
138	London plane	Aberfeldy Estate	52										£ 39,161	250	£ 97,903	100	£ 97,903	80	£ 78,323	100	£ 78,323	20	£93,987	40 - <80	£89,288
144	Swedish whitebeam	Aberfeldy Estate	25										£ 9,052	250	£ 22,629	100	£ 22,629	80	£ 18,103	90	£ 16,293	10	£17,922	20 - <40	£14,338
145	Swedish whitebeam	Aberfeldy Estate	45										£ 29,328	250	£ 73,319	100	£ 73,319	80	£ 58,655	90	£ 52,790	10	£58,069	20 - <40	£46,455
146	Swedish whitebeam	Aberfeldy Estate	43										£ 26,779	250	£ 66,946	100	£ 66,946	80	£ 53,557	90	£ 48,201	10	£53,022	20 - <40	£42,417
147	Swedish whitebeam	Aberfeldy Estate	43										£ 26,779	250	£ 66,946	100	£ 66,946	80	£ 53,557	90	£ 48,201	10	£53,022	20 - <40	£42,417
149	Eucalyptus	Aberfeldy Estate	40										£ 23,172	250	£ 57,931	100	£ 57,931	70	£ 40,552	100	£ 40,552	10	£44,607	40 - <80	£42,377
150	Norway maple	Aberfeldy Estate	30										£ 13,034	250	£ 32,586	100	£ 32,586	80	£ 26,069	100	£ 26,069	10	£28,676	20 - <40	£22,941
151	Norway maple	Aberfeldy Estate	30										£ 13,034	250	£ 32,586	100	£ 32,586	80	£ 26,069	100	£ 26,069	10	£28,676	20 - <40	£22,941
152	Norway maple	Aberfeldy Estate	25										£ 9,052	250	£ 22,629	100	£ 22,629	80	£ 18,103	100	£ 18,103	10	£19,914	20 - <40	£15,931
153	Tree of heaven	Aberfeldy Estate	30										£ 13,034	250	£ 32,586	100	£ 32,586	80	£ 26,069	100	£ 26,069	10	£28,676	20 - <40	£22,941

															CAVAT - Project Method								
154	Norway maple	Aberfeldy Estate	30										£ 13,034	250	£ 32,586	100	£ 32,586	80	£ 26,069	100	£ 26,069	10	£28,676	20 - <40	£22,941
155	Rowan	Aberfeldy Estate	20										£ 5,793	250	£ 14,483	100	£ 14,483	80	£ 11,586	90	£ 10,428	10	£11,470	20 - <40	£9,176
156	Rowan	Aberfeldy Estate	20										£ 5,793	250	£ 14,483	100	£ 14,483	80	£ 11,586	90	£ 10,428	10	£11,470	10 - <20	£6,309
157	Rowan	Aberfeldy Estate	20										£ 5,793	250	£ 14,483	100	£ 14,483	80	£ 11,586	90	£ 10,428	10	£11,470	10 - <20	£6,309
158	Rowan	Aberfeldy Estate	20										£ 5,793	250	£ 14,483	100	£ 14,483	80	£ 11,586	90	£ 10,428	10	£11,470	20 - <40	£9,176
159	Birch	Aberfeldy Estate	18										£ 4,692	250	£ 11,731	100	£ 11,731	80	£ 9,385	90	£ 8,446	10	£9,291	20 - <40	£7,433
160	Rowan	Aberfeldy Estate	20										£ 5,793	250	£ 14,483	100	£ 14,483	80	£ 11,586	90	£ 10,428	10	£11,470	20 - <40	£9,176
161	Rowan	Aberfeldy Estate	20										£ 5,793	250	£ 14,483	100	£ 14,483	80	£ 11,586	90	£ 10,428	10	£11,470	20 - <40	£9,176
162	Rowan	Aberfeldy Estate	20										£ 5,793	250	£ 14,483	100	£ 14,483	80	£ 11,586	90	£ 10,428	10	£11,470	20 - <40	£9,176
163	Rowan	Aberfeldy Estate	20										£ 5,793	250	£ 14,483	100	£ 14,483	80	£ 11,586	90	£ 10,428	10	£11,470	20 - <40	£9,176
164	Rowan	Aberfeldy Estate	20										£ 5,793	250	£ 14,483	100	£ 14,483	80	£ 11,586	30	£ 3,476	0	£3,476	<5	£348
165	Rowan	Aberfeldy Estate	20										£ 5,793	250	£ 14,483	100	£ 14,483	80	£ 11,586	90	£ 10,428	10	£11,470	20 - <40	£9,176
166	Rowan	Aberfeldy Estate	20										£ 5,793	250	£ 14,483	100	£ 14,483	80	£ 11,586	90	£ 10,428	10	£11,470	20 - <40	£9,176
167	Amelanchier	Aberfeldy Estate	40										£ 23,172	250	£ 57,931	100	£ 57,931	80	£ 46,345	90	£ 41,710	10	£45,881	20 - <40	£36,705
168	Norway maple	Aberfeldy Estate	55										£ 43,810	250	£ 109,526	100	£ 109,526	80	£ 87,621	100	£ 87,621	10	£96,383	40 - <80	£91,564
172	Plum	Aberfeldy Estate	14										£ 2,839	250	£ 7,097	100	£ 7,097	80	£ 5,677	100	£ 5,677	10	£6,245	40 - <80	£5,933
174	Whitebeam	Aberfeldy Estate	20										£ 5,793	250	£ 14,483	100	£ 14,483	80	£ 11,586	90	£ 10,428	10	£11,470	40 - <80	£10,897
175	Whitebeam	Aberfeldy Estate	20										£ 5,793	250	£ 14,483	100	£ 14,483	80	£ 11,586	90	£ 10,428	10	£11,470	40 - <80	£10,897
176	Whitebeam	Aberfeldy Estate	22										£ 7,010	250	£ 17,524	100	£ 17,524	80	£ 14,019	90	£ 12,617	10	£13,879	20 - <40	£11,103
177	Crab apple	Aberfeldy Estate	30										£ 13,034	250	£ 32,586	100	£ 32,586	80	£ 26,069	90	£ 23,462	10	£25,808	40 - <80	£24,518
178	Pear	Aberfeldy Estate	20										£ 5,793	250	£ 14,483	100	£ 14,483	80	£ 11,586	90	£ 10,428	10	£11,470	20 - <40	£9,176
179	Pear	Aberfeldy Estate	30										£ 13,034	250	£ 32,586	100	£ 32,586	80	£ 26,069	90	£ 23,462	10	£25,808	20 - <40	£20,647
180	Cabbage palm	Aberfeldy Estate	15										£ 3,259	250	£ 8,147	100	£ 8,147	100	£ 8,147	100	£ 8,147	10	£8,961	20 - <40	£7,169
182	Tree of heaven	Aberfeldy Estate	18	10									£ 6,141	250	£ 15,352	100	£ 15,352	80	£ 12,281	30	£ 3,684	0	£3,684	<5	£368
186	Tree of heaven	Aberfeldy Estate	15	8	8								£ 5,112	250	£ 12,781	100	£ 12,781	80	£ 10,225	30	£ 3,067	0	£3,067	<5	£307
187	Wild cherry	Aberfeldy Estate	20	15	10								£ 10,500	250	£ 26,250	100	£ 26,250	80	£ 21,000	50	£ 10,500	0	£10,500	5 - <10	£3,150
188	Privet	Aberfeldy Estate	16	12	12	12							£ 9,964	250	£ 24,910	100	£ 24,910	80	£ 19,928	100	£ 19,928	10	£21,921	10 - <20	£12,057
189	Butterfly bush	Aberfeldy Estate	10	10	10	10							£ 5,793	250	£ 14,483	100	£ 14,483	80	£ 11,586	30	£ 3,476	0	£3,476	<5	£348
190	Butterfly bush	Aberfeldy Estate	10	10	10	10							£ 5,793	250	£ 14,483	100	£ 14,483	80	£ 11,586	30	£ 3,476	0	£3,476	<5	£348
191	Elderberry	Aberfeldy Estate	10	10	10	10							£ 5,793	250	£ 14,483	100	£ 14,483	80	£ 11,586	100	£ 11,586	10	£12,745	10 - <20	£7,010
194	G1	Aberfeldy Estate	30	30	30								£ 39,103	250	£ 97,759	50	£ 48,879	50	£ 24,440	70	£ 17,108	0	£17,108	10 - <20	£9,409
195	G2	Aberfeldy Estate	15	15	15								£ 9,776	250	£ 24,440	25	£ 6,110	50	£ 3,055	70	£ 2,138	0	£2,138	10 - <20	£1,176
196	G3	Aberfeldy Estate	35	35	35	35	35	35	35	35	35	35	£ 177,414	250	£ 443,534	100	£ 443,534	70	£ 310,474	70	£ 217,332	10	£239,065	20 - <40	£191,252
197	G13	Aberfeldy Estate	30	30	30	30							£ 52,138	250	£ 130,345	75	£ 97,759	70	£ 68,431	90	£ 61,588	10	£67,747	20 - <40	£54,197
198	H1	Aberfeldy Estate	13										£ 2,448	250	£ 6,119	75	£ 4,589	70	£ 3,212	100	£ 3,212	0	£3,212	20 - <40	£2,570
199	H3	Aberfeldy Estate	15										£ 3,259	250	£ 8,147	75	£ 6,110	70	£ 4,277	100	£ 4,277	0	£4,277	40 - <80	£4,063

APPENDIX B - TMA values

- CAVAT (TMA)

Project: Jolly's Green (TMA)

Name of Surveyor: CW

Date: 21/12/2022

CAVAT

CALCULATE VALUE OF TREE STOCK

CTI Factor (Please select): 250

Unit Value Factor 18.44

Cumulative Total: **£ 585,801**

Created by Alexandra Sleet and Phillip Handley

Tree Information			Step 1: Basic Value											Step 2: CTI Value		Step 3: Locational Value		Step 4: Structural Value		Step 5: Functional Value		Step 6: Amenity Value		Step 5: Final Value	FINAL VALUE
Tree No.	Species ID	Location (I.e near tree no. 1)	Stem Diameter (1)	Stem Diameter (2)	Stem Diameter (3)	Stem Diameter (4)	Stem Diameter (5)	Stem Diameter (6)	Stem Diameter (7)	Stem Diameter (8)	Stem Diameter (9)	Stem Diameter (10)	Basic Value	CTI Factor (Please select)	CTI Value	Accessibility Factor (Please select)	Location Value	Structural Factor (Please select)	Structural Value	Functional Factor (Please select)	Functional Value	Amenity Factor (Please select)	Amenity Value	Life Expect. Factor (Please select)	
1	Cherry	Jolly's Green	56										£ 45,418	250	£ 113,545	100	£ 113,545	60	£ 68,127	100	£ 68,127	20	£81,752	10 - <20	£44,964
2	False acacia	Jolly's Green	30										£ 13,034	250	£ 32,586	100	£ 32,586	50	£ 16,293	100	£ 16,293	20	£19,552	10 - <20	£10,753
3	Cedar	Jolly's Green	30										£ 13,034	250	£ 32,586	100	£ 32,586	70	£ 22,810	100	£ 22,810	20	£27,372	20 - <40	£21,898
4	False acacia	Jolly's Green	35										£ 17,741	250	£ 44,353	100	£ 44,353	60	£ 26,612	100	£ 26,612	20	£31,934	10 - <20	£17,564
5	False acacia	Jolly's Green	36										£ 18,770	250	£ 46,924	100	£ 46,924	60	£ 28,154	100	£ 28,154	20	£33,785	10 - <20	£18,582
6	False acacia	Jolly's Green	32										£ 14,830	250	£ 37,076	100	£ 37,076	60	£ 22,245	100	£ 22,245	20	£26,695	10 - <20	£14,682
7	Plum	Jolly's Green	41										£ 24,345	250	£ 60,864	100	£ 60,864	70	£ 42,605	100	£ 42,605	20	£51,126	20 - <40	£40,900
8	Eucalyptus	Jolly's Green	60										£ 52,138	250	£ 130,345	100	£ 130,345	70	£ 91,241	100	£ 91,241	20	£109,490	20 - <40	£87,592
9	Field maple	Jolly's Green	29										£ 12,180	250	£ 30,450	100	£ 30,450	70	£ 21,315	100	£ 21,315	20	£25,578	20 - <40	£20,462
10	Sycamore	Jolly's Green	69										£ 68,952	250	£ 172,381	100	£ 172,381	90	£ 155,143	100	£ 155,143	20	£186,171	20 - <40	£148,937
11	Eucalyptus	Jolly's Green	30										£ 13,034	250	£ 32,586	100	£ 32,586	60	£ 19,552	100	£ 19,552	20	£23,462	20 - <40	£18,770
12	False acacia	Jolly's Green	26										£ 9,790	250	£ 24,476	100	£ 24,476	50	£ 12,238	100	£ 12,238	20	£14,686	10 - <20	£8,077
13	Cherry	Jolly's Green	21										£ 6,387	250	£ 15,967	100	£ 15,967	50	£ 7,984	100	£ 7,984	20	£9,580	20 - <40	£7,664
14	Cherry	Jolly's Green	33										£ 15,772	250	£ 39,429	100	£ 39,429	50	£ 19,715	100	£ 19,715	20	£23,658	10 - <20	£13,012
15	Cherry	Jolly's Green	22										£ 7,010	250	£ 17,524	100	£ 17,524	50	£ 8,762	100	£ 8,762	20	£10,514	10 - <20	£5,783
34	False acacia	Jolly's Green	66										£ 63,087	250	£ 157,717	100	£ 157,717	100	£ 157,717	10	£ 15,772	0	£15,772	<5	£1,577
35	Mixed group	Jolly's Green	15	15	15	15	15						£ 16,293	250	£ 40,733	100	£ 40,733	100	£ 40,733	100	£ 40,733	20	£48,879	20 - <40	£39,103
39	Hawthorn	Jolly's Green	7										£ 710	250	£ 1,774	100	£ 1,774	100	£ 1,774	100	£ 1,774	10	£1,952	40 - <80	£1,854
40	Norway maple	Jolly's Green	34										£ 16,742	250	£ 41,855	100	£ 41,855	100	£ 41,855	70	£ 29,299	10	£32,228	10 - <20	£17,726
41	Hawthorn	Jolly's Green	7										£ 710	250	£ 1,774	100	£ 1,774	100	£ 1,774	100	£ 1,774	10	£1,952	40 - <80	£1,854
42	Norway maple	Jolly's Green	28										£ 11,354	250	£ 28,386	100	£ 28,386	100	£ 28,386	50	£ 14,193	10	£15,612	10 - <20	£8,587
43	Hawthorn	Jolly's Green	8										£ 927	250	£ 2,317	100	£ 2,317	100	£ 2,317	100	£ 2,317	10	£2,549	40 - <80	£2,422
44	Hawthorn	Jolly's Green	8										£ 927	250	£ 2,317	100	£ 2,317	100	£ 2,317	100	£ 2,317	10	£2,549	40 - <80	£2,422
45	False acacia	Jolly's Green	46										£ 30,645	250	£ 76,614	100	£ 76,614	80	£ 61,291	10	£ 6,129	0	£6,129	<5	£613
50	Cherry	Jolly's Green	8										£ 927	250	£ 2,317	100	£ 2,317	100	£ 2,317	100	£ 2,317	10	£2,549	40 - <80	£2,422
51	Cherry	Jolly's Green	7										£ 710	250	£ 1,774	100	£ 1,774	100	£ 1,774	100	£ 1,774	10	£1,952	40 - <80	£1,854
52	Cherry	Jolly's Green	7										£ 710	250	£ 1,774	100	£ 1,774	100	£ 1,774	100	£ 1,774	10	£1,952	40 - <80	£1,854
53	Cherry	Jolly's Green	7										£ 710	250	£ 1,774	100	£ 1,774	100	£ 1,774	100	£ 1,774	10	£1,952	40 - <80	£1,854
54	Cherry	Jolly's Green	7										£ 710	250	£ 1,774	100	£ 1,774	100	£ 1,774	100	£ 1,774	10	£1,952	40 - <80	£1,854
55	Cherry	Jolly's Green	7										£ 710	250	£ 1,774	100	£ 1,774	100	£ 1,774	100	£ 1,774	10	£1,952	40 - <80	£1,854
56	Cherry	Jolly's Green	8										£ 927	250	£ 2,317	100	£ 2,317	100	£ 2,317	100	£ 2,317	10	£2,549	40 - <80	£2,422
57	Cherry	Jolly's Green	8										£ 927	250	£ 2,317	100	£ 2,317	100	£ 2,317	100	£ 2,317	10	£2,549	40 - <80	£2,422
58	Cherry	Jolly's Green	6										£ 521	250	£ 1,303	100	£ 1,303	100	£ 1,303	100	£ 1,303	10	£1,434	40 - <80	£1,362
59	Cherry	Jolly's Green	7										£ 710	250	£ 1,774	100	£ 1,774	100	£ 1,774	100	£ 1,774	10	£1,952	40 - <80	£1,854
60	Cherry	Jolly's Green	7										£ 710	250	£ 1,774	100	£ 1,774	100	£ 1,774	100	£ 1,774	10	£1,952	40 - <80	£1,854
61	Cherry	Jolly's Green	7										£ 710	250	£ 1,774	100	£ 1,774	100	£ 1,774	100	£ 1,774	10	£1,952	40 - <80	£1,854

62	Cherry	Jolly's Green	7									£ 710	250	£ 1,774	CAVAT - Project Method 100	£ 1,774	100	£ 1,774	100	£ 1,774	10	£1,952	40 - <80	£1,854
63	Cherry	Jolly's Green	7									£ 710	250	£ 1,774	100	£ 1,774	100	£ 1,774	100	£ 1,774	10	£1,952	40 - <80	£1,854
64	Beech	Jolly's Green	5									£ 362	250	£ 905	100	£ 905	100	£ 905	100	£ 905	10	£996	40 - <80	£946
65	Beech	Jolly's Green	5									£ 362	250	£ 905	100	£ 905	100	£ 905	100	£ 905	10	£996	40 - <80	£946
66	Beech	Jolly's Green	5									£ 362	250	£ 905	100	£ 905	100	£ 905	100	£ 905	10	£996	40 - <80	£946
68	Rowan	Jolly's Green	1									£ 14	250	£ 36	100	£ 36	50	£ 18	10	£ 2	0	£2	<5	£0

APPENDIX C - New tree values

- CAVAT calculations

Large tree - Year 0

CAVAT

SPREADSHEET TO CALCULATE VALUE OF INDIVIDUAL TREE STOCK (FULL METHOD)

Created by Alexandra Sleet and Phillip Handley

Only enter data in the pale-green boxes

CAVAT	Quantities you measure / look up		Calculated Values
Step 1: Basic Value			
Measured Trunk Diameter	6.00		
Unit Value Factor	18.44		
Basic Value			£521.38
Step 2: CTI Value			
Community Tree Index (CTI) Factor	250		
Community Tree Index (CTI) Value			£1,303.45
Step 3: Location Value			
Location Factor	100		
Location Value			£1,303.45
Step 4: Functional Crown Value part 1			
Structural Factor	100		
Structural Value			£1,303.45
Step 5: Functional Crown Value part 2			
Functional Crown Factor	100		
Functional Crown Value			£1,303.45
Step 6: Amenity Value			
Positive Attributes Factor	10		
Negative Attributes Factor	0		
Amenity Value		110	£1,433.79
Step 7: Full Value			
Life Expectancy Factor	40 - <80		
FINAL VALUE			£1,362

CAVAT

SPREADSHEET TO CALCULATE VALUE OF INDIVIDUAL TREE STOCK (FULL METHOD)

Created by Alexandra Sleet and Phillip Handley

Only enter data in the pale-green boxes

CAVAT	Quantities you measure / look up		Calculated Values
Step 1: Basic Value			
Measured Trunk Diameter	**4.00**		
Unit Value Factor	**18.44**		
Basic Value			**£231.72**
Step 2: CTI Value			
Community Tree Index (CTI) Factor	**250**		
Community Tree Index (CTI) Value			**£579.31**
Step 3: Location Value			
Location Factor	**100**		
Location Value			**£579.31**
Step 4: Functional Crown Value part 1			
Structural Factor	**100**		
Structural Value			**£579.31**
Step 5: Functional Crown Value part 2			
Functional Crown Factor	**100**		
Functional Crown Value			**£579.31**
Step 6: Amenity Value			
Positive Attributes Factor	**10**		
Negative Attributes Factor	**0**		
Amenity Value		**110**	**£637.24**
Step 7: Full Value			
Life Expectancy Factor	**20 - <40**		
FINAL VALUE			**£510**

Large tree - Year 15 (0.5cm)

CAVAT

SPREADSHEET TO CALCULATE VALUE OF INDIVIDUAL TREE STOCK (FULL METHOD)

Created by Alexandra Sleet and Phillip Handley

Only enter data in the pale-green boxes

CAVAT	Quantities you measure / look up		Calculated Values
Step 1: Basic Value			
Measured Trunk Diameter	11.00		
Unit Value Factor	18.44		
Basic Value			£1,752.41
Step 2: CTI Value			
Community Tree Index (CTI) Factor	250		
Community Tree Index (CTI) Value			£4,381.03
Step 3: Location Value			
Location Factor	100		
Location Value			£4,381.03
Step 4: Functional Crown Value part 1			
Structural Factor	90		
Structural Value			£3,942.93
Step 5: Functional Crown Value part 2			
Functional Crown Factor	100		
Functional Crown Value			£3,942.93
Step 6: Amenity Value			
Positive Attributes Factor	20		
Negative Attributes Factor	0		
Amenity Value		120	£4,731.51
Step 7: Full Value			
Life Expectancy Factor	40 - <80		
FINAL VALUE			£4,495

Large tree - Year 15 (0.75cm)

CAVAT

SPREADSHEET TO CALCULATE VALUE OF INDIVIDUAL TREE STOCK (FULL METHOD)

Created by Alexandra Sleet and Phillip Handley

Only enter data in the pale-green boxes

CAVAT	Quantities you measure / look up		Calculated Values
Step 1: Basic Value			
Measured Trunk Diameter	17.00		
Unit Value Factor	18.44		
Basic Value			£4,185.51
Step 2: CTI Value			
Community Tree Index (CTI) Factor	250		
Community Tree Index (CTI) Value			£10,463.78
Step 3: Location Value			
Location Factor	100		
Location Value			£10,463.78
Step 4: Functional Crown Value part 1			
Structural Factor	90		
Structural Value			£9,417.40
Step 5: Functional Crown Value part 2			
Functional Crown Factor	100		
Functional Crown Value			£9,417.40
Step 6: Amenity Value			
Positive Attributes Factor	20		
Negative Attributes Factor	0		
Amenity Value		120	£11,300.88
Step 7: Full Value			
Life Expectancy Factor	40 - <80		
FINAL VALUE			£10,736

Large tree - Year 15 (1.0cm)

CAVAT

SPREADSHEET TO CALCULATE VALUE OF INDIVIDUAL TREE STOCK (FULL METHOD)

Created by Alexandra Sleet and Phillip Handley

Only enter data in the pale-green boxes

CAVAT	Quantities you measure / look up		Calculated Values
Step 1: Basic Value			
Measured Trunk Diameter	21.00		
Unit Value Factor	18.44		
Basic Value			£6,386.89
Step 2: CTI Value			
Community Tree Index (CTI) Factor	250		
Community Tree Index (CTI) Value			£15,967.22
Step 3: Location Value			
Location Factor	100		
Location Value			£15,967.22
Step 4: Functional Crown Value part 1			
Structural Factor	90		
Structural Value			£14,370.50
Step 5: Functional Crown Value part 2			
Functional Crown Factor	100		
Functional Crown Value			£14,370.50
Step 6: Amenity Value			
Positive Attributes Factor	20		
Negative Attributes Factor	0		
Amenity Value		120	£17,244.60
Step 7: Full Value			
Life Expectancy Factor	40 - <80		
FINAL VALUE			£16,382

Small tree - Year 15 (0.5cm)

CAVAT

SPREADSHEET TO CALCULATE VALUE OF INDIVIDUAL TREE STOCK (FULL METHOD)

Created by Alexandra Sleet and Phillip Handley

Only enter data in the pale-green boxes

CAVAT	Quantities you measure / look up		Calculated Values
Step 1: Basic Value			
Measured Trunk Diameter	11.00		
Unit Value Factor	18.44		
Basic Value			£1,752.41
Step 2: CTI Value			
Community Tree Index (CTI) Factor	250		
Community Tree Index (CTI) Value			£4,381.03
Step 3: Location Value			
Location Factor	100		
Location Value			£4,381.03
Step 4: Functional Crown Value part 1			
Structural Factor	80		
Structural Value			£3,504.82
Step 5: Functional Crown Value part 2			
Functional Crown Factor	100		
Functional Crown Value			£3,504.82
Step 6: Amenity Value			
Positive Attributes Factor	10		
Negative Attributes Factor	0		
Amenity Value		110	£3,855.31
Step 7: Full Value			
Life Expectancy Factor	20 - <40		
FINAL VALUE			£3,084

Large tree - Year 20 (0.5cm)

CAVAT

SPREADSHEET TO CALCULATE VALUE OF INDIVIDUAL TREE STOCK (FULL METHOD)

Created by Alexandra Sleet and Phillip Handley

Only enter data in the pale-green boxes

CAVAT	Quantities you measure / look up		Calculated Values
Step 1: Basic Value			
Measured Trunk Diameter	16.00		
Unit Value Factor	18.44		
Basic Value			£3,707.58
Step 2: CTI Value			
Community Tree Index (CTI) Factor	250		
Community Tree Index (CTI) Value			£9,268.95
Step 3: Location Value			
Location Factor	100		
Location Value			£9,268.95
Step 4: Functional Crown Value part 1			
Structural Factor	90		
Structural Value			£8,342.06
Step 5: Functional Crown Value part 2			
Functional Crown Factor	100		
Functional Crown Value			£8,342.06
Step 6: Amenity Value			
Positive Attributes Factor	20		
Negative Attributes Factor	0		
Amenity Value		120	£10,010.47
Step 7: Full Value			
Life Expectancy Factor	40 - <80		
FINAL VALUE			£9,510

Large tree - Year 20 (0.75cm)

CAVAT

SPREADSHEET TO CALCULATE VALUE OF INDIVIDUAL TREE STOCK (FULL METHOD)

Created by Alexandra Sleet and Phillip Handley

Only enter data in the pale-green boxes

CAVAT	Quantities you measure / look up		Calculated Values
Step 1: Basic Value			
Measured Trunk Diameter	21.00		
Unit Value Factor	18.44		
Basic Value			£6,386.89
Step 2: CTI Value			
Community Tree Index (CTI) Factor	250		
Community Tree Index (CTI) Value			£15,967.22
Step 3: Location Value			
Location Factor	100		
Location Value			£15,967.22
Step 4: Functional Crown Value part 1			
Structural Factor	90		
Structural Value			£14,370.50
Step 5: Functional Crown Value part 2			
Functional Crown Factor	100		
Functional Crown Value			£14,370.50
Step 6: Amenity Value			
Positive Attributes Factor	20		
Negative Attributes Factor	0		
Amenity Value		120	£17,244.60
Step 7: Full Value			
Life Expectancy Factor	40 - <80		
FINAL VALUE			£16,382

Large tree - Year 20 (1.0cm)

CAVAT

SPREADSHEET TO CALCULATE VALUE OF INDIVIDUAL TREE STOCK (FULL METHOD)

Created by Alexandra Sleet and Phillip Handley

Only enter data in the pale-green boxes

CAVAT	Quantities you measure / look up		Calculated Values
Step 1: Basic Value			
Measured Trunk Diameter	26.00		
Unit Value Factor	18.44		
Basic Value			£9,790.33
Step 2: CTI Value			
Community Tree Index (CTI) Factor	250		
Community Tree Index (CTI) Value			£24,475.83
Step 3: Location Value			
Location Factor	100		
Location Value			£24,475.83
Step 4: Functional Crown Value part 1			
Structural Factor	90		
Structural Value			£22,028.25
Step 5: Functional Crown Value part 2			
Functional Crown Factor	100		
Functional Crown Value			£22,028.25
Step 6: Amenity Value			
Positive Attributes Factor	20		
Negative Attributes Factor	0		
Amenity Value		120	£26,433.90
Step 7: Full Value			
Life Expectancy Factor	40 - <80		
FINAL VALUE			£25,112

Small tree - Year 20 (0.5cm)

CAVAT

SPREADSHEET TO CALCULATE VALUE OF INDIVIDUAL TREE STOCK (FULL METHOD)

Created by Alexandra Sleet and Phillip Handley

Only enter data in the pale-green boxes

CAVAT	Quantities you measure / look up		Calculated Values
Step 1: Basic Value			
Measured Trunk Diameter	14.00		
Unit Value Factor	18.44		
Basic Value			£2,838.62
Step 2: CTI Value			
Community Tree Index (CTI) Factor	250		
Community Tree Index (CTI) Value			£7,096.54
Step 3: Location Value			
Location Factor	100		
Location Value			£7,096.54
Step 4: Functional Crown Value part 1			
Structural Factor	80		
Structural Value			£5,677.23
Step 5: Functional Crown Value part 2			
Functional Crown Factor	100		
Functional Crown Value			£5,677.23
Step 6: Amenity Value			
Positive Attributes Factor	10		
Negative Attributes Factor	0		
Amenity Value		110	£6,244.96
Step 7: Full Value			
Life Expectancy Factor	10 - <20		
FINAL VALUE			£3,435

LARGE TREES				
YEAR	*GROWTH*	*INDIV.*	*COUNT*	*TOTAL*
Year 0	N/A	£1,362.00	203	**£276,486.00**
Year 15	0.5	£4,495.00	203	**£912,485.00**
	0.75	£10,736.00	203	**£2,179,408.00**
	1	£16,382.00	203	**£3,325,546.00**
Year 20	0.5	£9,510.00	203	**£1,930,530.00**
	0.75	£16,382.00	203	**£3,325,546.00**
	1	£25,112.00	203	**£5,097,736.00**

SMALL TREES				
YEAR	*GROWTH*	*INDIV.*	*COUNT*	*TOTAL*
Year 0	N/A	£510.00	203	**£103,530.00**
Year 15	0.5	£3,084.00	203	**£626,052.00**
Year 20	0.5	£3,435.00	203	**£697,305.00**

TOTAL COMBINED SUMS		
YEAR	*GROWTH*	*TOTAL*
Year 0	N/A	**£380,016.00**
Year 15	0.5	**£1,538,537.00**
	0.75	**£2,805,460.00**
	1	**£3,951,598.00**
Year 20	0.5	**£2,627,835.00**
	0.75	**£4,022,851.00**
	1	**£5,795,041.00**

TOTAL NET GAIN/LOSS		
YEAR	*GROWTH*	*TOTAL*
Year 0	N/A	**-£3,252,177.00**
Year 15	0.5	**-£2,093,656.00**
	0.75	**-£826,733.00**
	1	**£319,405.00**
Year 20	0.5	**-£1,004,358.00**
	0.75	**£390,658.00**
	1	**£2,162,848.00**

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