ARBORICULTURAL REPORT AND **ARBORICULTURAL IMPACT ASSESSMENT** to BS 5837:2012

at Victoria Mill Watt Street Sabden Lancashire BB7 9ED



Client Address:

Riparian Court Riparian Way Cross Hills Keighley West Yorkshire BD20 7BW

Client Telephone: 01535 639620

JCA Ref: 13611-A/AJB



Arborfeultural & Ecological Consultants

Contents

1.	Introduction	3							
1.1	Purpose of the Report	3							
1.2	2 Terms of Reference	3							
1.3	Scope of the Report	3							
1.4	Survey Details								
2.	Site Description	5							
2.1	Land Use & Topography	5							
2.2	2 Treescape & Visual Amenity Value	5							
2.3	3 Age Class Mix	5							
2.4	Species Diversity	5							
3.	Status of the Trees	6							
4.	Tree Descriptions and Recommendations	6							
5.	Discussion Relating to the Existing Treescape	7							
5.1	5.1 Tree Condition & Recommended Works								
5.2	5.2 Removals Irrespective of Development								
5.3	5.3 Remedial Tree Works								
5.4	Monitoring/ Further Investigation	7							
6.	Arboricultural Implications Assessment (AIA)	8							
6.1	Proposed Development	8							
6.2	2 Tree Removals for Development	8							
6.3	Pruning for Development	8							
6.4	Implications for Retained Trees	9							
6.	Conclusions	11							
		10							
Арр	endix 1: Tree Descriptions and Recommendations	13							
Арр	endix 2: Explanation of Tree Descriptions	14							
App	endix 3: General Guidelines	17							
App	endix 4: Glossary of Terms & Abbreviations	18							
App	endix 5: Author Qualifications	19							
App	endix 6: Tree Constraints Plan	20							
Арр	endix 7: Arboricultural Implications Plan	21							

1. Introduction

1.1 Purpose of the Report

- 1.1.1 This report is required at Victoria Mill, Watt Street, Sabden, to provide detailed, independent, arboricultural advice on the trees present, in the context of potential development.
- 1.1.2 The purpose of this report is to summarise the findings of an arboricultural assessment of the existing vegetation at the above site; conducted in accordance with the guidelines contained within BS5837: 2012 'Trees in relation to design, demolition and construction Recommendations'.
- 1.1.3 This report will outline any tree works which are required within the current context of the site. It will also grade the trees in accordance with the British Standard; which should guide the design in terms of which trees are to be retained and which trees are to be removed.

1.2 Terms of Reference

- 1.2.1 JCA Ltd has been instructed by **Skipton Properties** to survey the site and prepare the findings in a report.
- 1.2.2 For this purpose a topographical survey has been supplied which forms the basis for the Tree Constraints Plan at **Appendix 6**. The topographical survey, along with all other documents supplied to JCA, is assumed to be correct. No checking of such documents will be undertaken and JCA cannot be held responsible for incorrect data supplied by other parties.

1.3 Scope of the Report

- 1.3.1 This report is compiled in accordance with *BS 5837:2012 'Trees in relation to design, demolition and construction Recommendations'* and is based on an objective assessment of the existing vegetation.
- 1.3.2 All trees within the site boundary with a stem diameter above 75mm are included.
- 1.3.3 Where applicable trees outside the site boundary, but close enough to be affected by the proposed development, are included.
- 1.3.4 The specific design of the proposed development has been considered within the Arboricultural Implication Assessment in **Section 6** and is detailed on the plan at **Appendix 7**.

1.4 Survey Details

- 1.4.1 The survey took place during the month of February 2018 and was conducted by Andrew Bussey.
- 1.4.2 During this survey, all trees were inspected from ground level. Further investigations, such as a climbed inspection or a decay detection survey, have not been undertaken but may be recommended where deemed appropriate.
- 1.4.3 Measurements were obtained using clinometers, specialist tapes or electronic distometers.
- 1.4.4 Where this was not possible (due to the density of the vegetation on site), measurements were estimated to the best ability of the surveyor. JCA endeavour to provide accurate information and will always take measurements unless inhibited by restricted access or other mitigating circumstances. Where measurements have been estimated, they are clearly highlighted at **Appendix 1**.

2. Site Description

2.1 Land Use & Topography

2.1.1 The site, which is relatively level with multiple minor undulations in ground level, is currently occupied by a disused mill and its associated grounds which include open spaces, waste-ground, a river and a small reservoir.

2.2 Treescape & Visual Amenity Value

- 2.2.1 Surrounding the site is a residential area containing occasional garden trees and good quality trees located on public open space which contribute well to the local treescape and amenity value of the area.
- 2.2.2 The trees within the site boundary have a moderate impact on the local treescape and provide a reasonable impact on the amenity value of the areas when viewed collectively.

2.3 Age Class Mix

2.3.1 The trees surveyed ranged in age from young to mature.

2.4 Species Diversity

2.4.1 Species surveyed include Goat Willow, Common Ash, Beech, Silver Birch, Common Lime, Sycamore, Wych Elm, English Elm, Horse Chestnut, Norway Maple, Hawthorn, Holly and Common Alder.

3. Status of the Trees

- 3.1 We are aware that **Ribble Valley Borough Council** made an Area Tree Preservation Order (TPO No: **7/19/3/204 The Victoria Mill Sabden**) on the 29th of June 2017.
- 3.2 Before any work is organised for protected trees, an application form must be submitted to the Local Authority, outlining all the proposed works along with suitable justification. A waiting period of eight weeks is then required, after which time the council will either give consent to the works, refuse the works or grant a conditional consent.
- 3.3 No work must be done to any trees until permission has been granted.

4. Tree Descriptions and Recommendations

4.1 Full details of all individual trees surveyed are recorded in the tables at **Appendix 1**. A full explanation of the tables can be found at **Appendix 2**. Please refer also to the Tree Constraints Plan at **Appendix 6** for tree locations.

5. Discussion Relating to the Existing Treescape

5.1 Tree Condition & Recommended Works

5.1.1 The tree survey revealed a total of 37 items of vegetation (30 individual trees and 7 groups of trees). Of these, 5 trees were identified as retention category 'A', 5 trees were identified as retention category 'B', 19 trees and 7 groups as retention category 'C' and 1 tree as category 'U'. Please refer to Appendix 2 for retention category and definition criteria.

5.2 Removals Irrespective of Development

5.2.1 **T17** was identified as retention category 'U' and requires removal as a matter of **moderate priority** because it poses a health and safety risk and has the potential to cause structural damage to adjacent features should it collapse.

5.3 Remedial Tree Works

5.3.1 No remedial tree works are required under the current context of the site.

5.4 Monitoring/ Further Investigation

- 5.4.1 In this case, no specific monitoring (re-inspecting and re-assessing) are considered necessary. However, all trees to be retained within the proposed development should be inspected on a regular basis in the interests of risk management.
- 5.4.2 A full detailed inspection of many trees was inhibited by restricted access or by the presence of understorey vegetation. For these trees, it is advised that they are re-inspected for any possible defects once the understorey vegetation has been removed and when access has been made available.
- 5.4.3 In addition, to the above, all trees which are to be retained within the proposed development should be inspected on a regular basis in the interests of risk management.

6. Arboricultural Implications Assessment (AIA)

6.1 **Proposed Development**

- 6.1.1 We are in formed that the proposed development will consist of: 'Full application for the demolition of existing structures and removal of culvert to Sabden Brook; development of 30 dwellings including reconstruction of former Marbil Office Building as dwellings; reconstruction of base of mill chimney as an ecology tower; and associated access and landscaping. Former Victoria Mill site, Watt Street, Sabden.'
- 6.1.2 Drawing No. **1582SPLVMS-SL01 Rev D** has been supplied by the client; this plan can be found at **Appendix 7** and is the basis for which this AIA has been prepared.
- 6.1.3 All tree works required to accommodate the proposals are included at **Appendix 1**, which lists all works recommended during the initial survey and those required for the development in italics.

6.2 Tree Removals for Development

- 6.2.1 In order to facilitate the required demolitions or the development proposals, it will be necessary to remove G6, G7, T13, G14, T15, T18, T19, T20, G21, T22, T23, T25, T26, T27, T28, T29, T30, T31, T32, T33 and G37, each of which fall into retention category 'C'.
- 6.2.2 Whilst the development will require the removal of multiple lower value trees within the site, it should be noted that a substantive tree planting scheme is included within the soft landscaping proposals. This will act to mitigate tree losses, improve the visual benefits of the site and the surrounding area, and will improve the localised tree stock.

6.3 **Pruning for Development**

6.3.1 In order to allow for the erection of scaffold, clearance for new buildings and access heights for new driveways, it will be necessary to sympathetically prune off-site trees T11 and T12. The specifics of this facilitation pruning works are discussed in Appendix 1 and demonstrated as a blue line on the plan at Appendix 7.

6.4 Implications for Retained Trees

6.4.1 <u>The Protective Barrier</u>

- 6.4.1.1 In order to ensure the effective protection of retained trees during development, a protective barrier will be installed, in accordance with BS5837: 2012 and may comprise of protective fencing and/or ground protection. This will be the first job on site following the tree removal and pruning works. The fencing should ideally be positioned to protect the entire **Root Protection Area** (**RPA**) of the retained trees, in order to create a **Construction Exclusion Zone** (**CEZ**).
- 6.4.1.2 Routes for pedestrian and site traffic should ideally be located outside, and diverted away from, the RPAs of the retained trees. Where this is not possible, temporary protective surfaces (ground protection) must be laid over the exposed RPAs which will distribute the weight of site vehicles, machinery or pedestrians whilst allowing moisture to reach the tree rooting area beneath. Such surfaces should be constructed in accordance with BS5837: 2012.
- 6.4.1.3 Where ground protection or work is required within the RPA of a retained tree, specialist measures must be adopted during the construction phase to avoid ground compaction and minimise root damage. Such areas are highlighted in orange on the Arboricultural Implications Plan at **Appendix 7**.

6.4.2 Access/Construction of Hard Surfacing

- 6.4.2.1 The proposed development entails the construction of hard surfacing in the form of a driveway within the RPA of **T34** (an off-site tree). In order to prevent foreseeable damage to tree roots, a 'no-dig' method of construction will be utilised within the area shown in blue shade on the plan at **Appendix 7**.
- 6.4.2.2 The chosen system must be fit for purpose and of suitable construction to dissipate compaction damage to tree roots, allow gaseous diffusion to/from the soil and the percolation of water to the soil surface. This may require the use of specialist materials and sensitive edging systems to prevent damage to tree roots.
- 6.4.2.3 In order to afford **T34** maximum protection throughout development this no-dig surfacing must be constructed as an initial phase of construction following the erection of the adjacent protective fencing. Design principles will be included in an Arboricultural Method Statement and confirmed by an appropriately qualified engineer appointed by Skipton Properties.
- 6.4.2.4 Proposed hard surfaces are present within the RPA of **T11** and **T12**, as shown in brown shade on the plan at **Appendix 7**. In this case, the proposed surface is situated within the footprint of existing hard surfacing in the form of a concrete pad. As such; the existing surface will be retained in situ to prevent disturbance to tree roots.

6.4.3 Demolition

6.4.3.1 In order to meet the needs of this proposal, demolition of existing structures is required adjacent to **T10**, **T11** and **T12**. Due to this, specialist demolition methods will be required to prevent damage. This may include collapsing structures in a direction away from trees, utilising hand digging methods, when working within RPAs etc. Full details on such methods will be included in an Arboricultural Method Statement, including arboricultural supervision where deemed necessary.

6.4.4 Construction/ Foundation Design.

- 6.4.4.1 The footprints of the proposed structures do not incur the RPA of retained trees. As such no specialist construction or foundation methods are considered necessary for the sole purpose of preventing damage to trees.
- 6.4.4.2 Despite this, specialist foundation designs may still be required for other reasons, and advice should always be sought from a suitably qualified structural expert. The water demand of trees can be an important consideration when determining the appropriate foundation design. Because of this, water demands for the trees identified on this site are included at **Appendix 1**, in accordance with **NHBC Chapter 4.2**, for use by the appointed structural expert.

6.4.4.3 Tree Shade

6.4.4.4 Any problems of shading in relation to new buildings caused by retained trees are likely to be minimal as the trees are deciduous, and light penetration will increase in the winter when the sun is lowest.

6.4.4.5 <u>Utilities</u>

6.4.4.6 In this case the routing of proposed utilities is situated outside the RPAs of retained trees. As such, no mitigation actions are considered necessary to mitigate potential damage to tree roots.

6.4.5 Site Compound

6.4.5.1 The site compound, which typically includes the site office, mess facilities, toilets, storage of materials and parking, must be located away from the trees and outside the RPAs. Care should also be taken to prevent soil contamination with chemical spillages, including petrol, diesel and oils.

6.4.6 Landscaping

6.4.6.1 No ground level changes are to be undertaken within the RPA of retained trees, unless otherwise stated or agreed with the appointed Arboricultural consultant or the LPA. The requirement to raise/lower ground levels within RPAs should be communicated to these parties at the earliest practical convenience.

6. Conclusions

- 6.1 A Tree Preservation Order is in force on this site.
- 6.2 **T17** has been recommended for removal for arboricultural reasons, as discussed in **Section 5.2** and are detailed at **Appendix 1**.
- 6.3 No remedial tree works are required under the current context of the site.
- 6.4 In this case, no specific monitoring (re-inspecting and re-assessing) are considered necessary.
- 6.5 The arboricultural implications of the development have been considered and discussed in **Section 6**.
- 6.6 G6, G7, T13, G14, T15, T18, T19, T20, G21, T22, T23, T25, T26, T27, T28, T29, T30, T31, T32, T33 and G37 require removal in order to facilitate the proposed development, as discussed in Section 6.2 and detailed on the plan at Appendix 7.
- 6.7 Off-site trees, **T11** and **T12** require pruning work to facilitate the development, as discussed at **Section 6.3**, **Appendix 1** and demonstrated on the plan at **Appendix 7**.
- 6.8 All development work carried out in close proximity to trees must be executed in a manner sympathetic to their needs. Otherwise, the condition of the trees may deteriorate in the months and years following development, leading to a loss of amenity and resulting in potentially hazardous trees. Care must therefore be taken to ensure that the retained trees are suitably protected.
- 6.9 In accordance with Section 6.1 of BS 5837: 2012, our client has requested the preparation of an Arboricultural Method Statement (AMS), to ensure that all the retained trees survive the development process. An AMS details which trees are to be removed, which trees are to be retained and any other tree works which are required to facilitate development. The AMS will also advise on temporary protective barriers, temporary ground protection, site supervision, location of services and it will detail specialist construction techniques.
- 6.10 The data gained during the survey provides an indication of the health of the trees. However, it does not enable a comprehensive assessment of their condition over time. Trees are living organisms which are affected by many factors including weather conditions, diseases/disorders, light levels and human activities. Because of this, this report is only valid for a period of 1 year from the date of issuing. Should an update or revision of this report be required outside of this time period, JCA may require a further site visit to ensure that the condition of the trees has not significantly changed. It is advised that the trees are inspected regularly, in the interests of risk management.

Appendices

Tree Ref.	Age Common Name Botanical Name	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations Priority	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
T 1	Early-mature Beech Fagus sylvatica	16	0	1 n/a	45	6# 6# 6# 6#	Situated on adjacent land. Overhanging the car park and water course. Single- stemmed and vertical with a balanced crown. No evidence of significant pruning. No major visible defects. Not fully inspected due to limited access.	No action required. n/a	GOOD	GOOD	MOD	MOD	40+	1 B 2
T 2	Early-mature Silver Birch Betula pendula	15	2	3 S	36	6.5 3.5 5# 5#	Situated on adjacent land. Overhanging the car park and water course. Single- stemmed and vertical with a balanced crown. No evidence of significant pruning. No major visible defects. Not fully inspected due to limited access.	No action required. n/a	GOOD	GOOD	MOD	LOW	40+	1 B 2
Т 3	Early-mature Common Lime Tilia x europaea	17	1	2 n/a	50	6 5 4.5# 6#	Situated on adjacent land. Overhanging the footpath and watercourse. Twin- stemmed at 3.5m with a balanced crown. No evidence of significant pruning. Included bark at the stem junction. Not fully inspected due to limited access.	No action required. n/a	GOOD	FAIR	MOD	MOD	20+	1 B 2
T 4	Semi-mature Sycamore Acer pseudoplatanus	14	3	3 n/a	30	4 5 3# 4.5	Situated on adjacent land. Overhanging the watercourse. Multi-stemmed at 1m with a balanced crown. No evidence of significant pruning. Dirt pocket present at the stem junction. Not fully inspected due to limited access.	No action required. n/a	GOOD	FAIR	LOW	MOD	10+	C 1
Т 5	Early-mature Sycamore Acer pseudoplatanus	17	1	2 n/a	40, 30, 30, 30 & 20	6 7 7# 6	Situated on adjacent land. Overhanging the watercourse. Multi-stemmed at ground level with a balanced crown. No evidence of significant pruning. No major visible defects. Not fully inspected due to limited access.	No action required. n/a	GOOD	GOOD	MOD	MOD	40+	1 B 2
G 6	Semi-mature Mixed Details in observations	To 10	0+	0+ n/a	To 25#	See plan	Located adjacent to the watercourse. Common Ash, Sycamore and Wych Elm of poor individual form and little significance. Limited long term future due to their restricted location adjacent to the building and retaining wall. Not fully inspected due to limited access.	No action required. Remove to facilitate the demolition of existing features. n/a	GOOD	FAIR	LOW	MOD TO HIGH	10+	C 1
G 7	Semi-mature Mixed Details in observations	To 15	0+	0+ n/a	То 30#	See plan	Common Ash, Sycamore and Wych Elm of poor individual form. Limited long term future due to their restricted location adjacent to the building and retaining wall. Not fully inspected due to limited access.	No action required Remove to facilitate the demolition of existing features and provide clearance for new landscaping. n/a	GOOD	FAIR	LOW	MOD TO HIGH	10+	C 1
Т 8	Mature Horse Chestnut Aesculus hippocastanum	20	2	3 n/a	105	7 6 9 7	Situated on adjacent land. Overhanging the road. Multi-stemmed at 2.5m with a balanced crown. Occasional pruning wounds. Minor dirt pocket at the stem junction. Occasional crossing branches noted. No major visible defects.	No action required. n/a	GOOD	GOOD	MOD	MOD	40+	1 A 2

Tree Ref.	Age Common Name Botanical Name	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations Priority	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
Т9	Mature Common Lime Tilia x europaea	26	5	7 n/a	87	9 6 6.5 9	Situated on adjacent land. Overhanging the road. Twin-stemmed at 5m with a balanced crown. Occasional pruning wounds. No major visible defects.	No action required. n/a	GOOD	GOOD	MOD	MOD	40+	1 A 2
T 10	Mature Common Lime Tilia x europaea	26	4	5 n/a	85#	10 8 9 5	Situated on adjacent land. Overhanging the road. Twin-stemmed at 7m with a balanced crown. Occasional pruning wounds. No major visible defects. Not fully inspected due to epicormic growth at the base.	No action required. n/a	GOOD	GOOD	MOD	MOD	40+	1 A 2
T 11	Mature Horse Chestnut Aesculus hippocastanum	18	2	2 n/a	103	7 8.5 7.5# 4.5#	Situated on adjacent land. Overhanging the road. Multi-stemmed at 4m with a balanced crown. Occasional pruning wounds. No major visible defects. Not fully inspected due to limited access to the south and east.	No action required. Prune back the southern and south- eastern canopy extent by the removal of secondary and tertiary branches only. n/a	GOOD	GOOD	MOD	MOD	40+	1 A 2
T 12	Mature Common Lime	26	4	6	90#	11	Situated on adjacent land. Overhanging the road and building. Twin-stemmed at 5m with a balanced crown. Occasional pruning wounds. No major visible defects. Not fully inspected due to epicormic growth at the base. Not fully inspected due to limited access to the south and east.	No action required. Prune back the southern and south- eastern canopy extent by 2m and crown lift to 5.6m by the removal of secondary and tertiary branches only.	GOOD	GOOD	MOD	MOD	40+	1 A 2
T 13	Tilia x europaea Early-mature Sycamore Acer pseudoplatanus	17	2	n/a 2 n/a	40	9# 4 5 5 5	Single-stemmed and vertical with a balanced crown. Growing from the base of a retaining wall with the potential to cause future structural damage to this feature.	Low No action required. Remove to facilitate the proposed development. n/a	GOOD	FAIR	MOD	MOD	10+	C 1
G 14	Young to semi- mature Mixed Details in observations	To 11	0+	0+ n/a	To 22	See plan	A linear group of Common Ash, Norway Maple and Sycamore of poor individual form.	No action required. Remove to facilitate the proposed development. n/a	GOOD	FAIR	MOD	MOD	10+	C 1
T 15	Young Common Ash Fraxinus excelsior	6	1	2 W	16	4 5 3 2	Situated on adjacent land. Single- stemmed and leaning with an unbalanced crown and a very poor form.	No action required. Remove to facilitate the proposed development. n/a	GOOD	FAIR	LOW	MOD	10+	C 1
G 16	Semi to early- mature Mixed Details in observations	То 17	0+	0+ n/a	To 40	See plan	Presumed to be situated on adjacent land. A dense, off-site group of Sycamore and Common Ash of poor individual form. Included bark and vertical bark wounds noted.	No action required.	GOOD	FAIR	MOD	MOD	10+	C 1

Tree Ref.	Age Common Name Botanical Name	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations Priority	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
T 17	Mature Sycamore Acer pseudoplatanus	19	5	5 n/a	60	10# 6 7 3	Located adjacent to the watercourse within boggy, washed out terrain. Severely leaning and unbalanced over the adjacent building. Water has washed out under the root plate which is also rising at the opposite side to the lean of the stem.	Remove for arboricultural reasons. Moderate	FAIR	POOR	LOW	MOD	<10	U
T 18	Semi-mature Common Ash Fraxinus excelsior	17	6	6 E	29	4.5 0 6 3	Single-stemmed and vertical with a balanced crown and a tall and slender form.	No action required. Remove to facilitate the proposed development. n/a	GOOD	FAIR	LOW	MOD	10+	C 1
T 19	Semi-mature Common Ash Fraxinus excelsior	18	6	6 NW	46	4 3 4 2.8	Single-stemmed and vertical with a balanced crown and a tall and slender form.	No action required. Remove to facilitate the proposed development. n/a	GOOD	FAIR	LOW	MOD	10+	C 1
Т 20	Semi-mature Common Ash Fraxinus excelsior	18	14	14 n/a	31	3 2.5 2 4	Twin-stemmed at 1m with an unbalanced crown and a tall and slender form.	No action required. Remove to facilitate the proposed development. n/a	GOOD	FAIR	LOW	MOD	10+	C 1
G 21	Early-mature Mixed Details in	To 18	4	4 n/a	38 & 34	4.5 3 4 2	A Sycamore and Common Ash which are growing from the same location. Both trees when viewed together are twin-stemmed at ground level with a unbalanced crowns.	No action required. Remove to facilitate the proposed development. n/a	GOOD	FAIR	LOW	MOD	10+	C 1
T 22	Early-mature Common Ash Fraxinus excelsior	17	6	7 W	64	6 6.5 3 3	Twin-stemmed at 1m with an unbalanced crown with a poor and slender form.	No action required. Remove to facilitate the proposed development. n/a	GOOD	FAIR	LOW	MOD	10+	C 1
T 23	Early-mature Sycamore Acer pseudoplatanus	17	2	2 n/a	74#	5# 5 6.5 5	Multi-stemmed at ground level with a balanced crown. Included bark at the stem junction. Not fully inspected due to vegetation.	No action required. Remove to facilitate the proposed development. n/a	GOOD	FAIR	LOW	MOD	10+	C 1
T 24	Early-mature Common Ash Fraxinus excelsior	19	5	5 n/a	55	6# 7# 7# 4#	Situated on adjacent land. Not shown on the topographical plan provided yet within influencing distance of the development area. Twin-stemmed at 8m with a balanced crown. Not fully inspected due to vegetation.	No action required. n/a	GOOD	GOOD	LOW	MOD	40+	B 1
T 25	Early-mature Common Ash Fraxinus excelsior	19	5	1 E	45# x 2	5# 6# 12# 4	Presumed to be situated on adjacent land. Twin-stemmed at ground level with an unbalanced crown. The co- dominant stem to the northeast is long and heavy over the dam.	No action required. Remove to facilitate the proposed development. n/a	GOOD	FAIR	LOW	MOD	10+	C 1

Tree Ref.	Age Common Name Botanical Name	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations Priority	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
T 26	Semi-mature Goat Willow	8	1	1	28#	5	A dam-side tree. Single-stemmed and leaning with an unbalanced crown.	No action required. Remove to facilitate the proposed development.	GOOD	FAIR	LOW	HIGH	10+	C 1
	Salix caprea			N		1		n/a						
T 27	Early-mature Common Ash	18	5	4	55	8# 7 8#	A dam-side tree. Single-stemmed and leaning to the north with an unbalanced crown.	No action required. Remove to facilitate the proposed development.	GOOD	FAIR	LOW	MOD	10+	C 1
	Fraxinus excelsior			n/a		2		n/a						
T 28	Early-mature Common Alder	19	0	0	43# x 3 Ave.	6 5 5	A dam-side tree. Multi-stemmed at ground level with a balanced crown.	No action required. Remove to facilitate the proposed development.	GOOD	GOOD	LOW	MOD	20+	C 1
	Alnus glutinosa			n/a		3.5		n/a						
T 29	Early-mature Sycamore	20	0	0	57, 25 & 23	6# 5 6	A dam-side tree. Multi-stemmed at ground level with a balanced crown. A decay cavity was noted at 3m on the main stem.	No action required. Remove to facilitate the proposed development.	GOOD	FAIR	LOW	MOD	10+	C 1
	pseudoplatanus			n/a		5		n/a						
T 30	Semi-mature English Elm	8	0	0	27	7 4 4	A dam-side tree. Single-stemmed and leaning with an unbalanced crown and a very poor form.	No action required. Remove to facilitate the proposed development.	GOOD	FAIR	LOW	HIGH	10+	C 1
	E l			11/a		C#		il/ a						
T 31	Early-mature Sycamore	19	0	0	28# x 8 Ave.	6# 5 5	A dam-side tree. Multi-stemmed at ground level with a balanced crown. Not fully inspected due to limited access.	No action required. Remove to facilitate the proposed development.	GOOD	FAIR	LOW	MOD	10+	C 1
	Acer pseudoplatanus			n/a		4		n/a						
Т 32	Semi-mature Common Ash	19	0	0	45 x 2	4 4	A dam-side tree. Twin-stemmed at ground level with a balanced crown and a tall and slender form.	No action required. Remove to facilitate the proposed development.	GOOD	FAIR	LOW	MOD	10+	C 1
	Fraxinus excelsior			n/a		4		n/a						
Т 33	Semi-mature English Elm	11	0	0	15 x 4	4 3 5	Multi-stemmed at ground level with a balanced crown.	No action required. Remove to facilitate the proposed development.	GOOD	FAIR	LOW	HIGH	10+	C 1
	Ulmus procera			n/a		4		n/a						
T 34	Semi-mature Sycamore Acer pseudoplatanus	13	0	0 n/a	25 x 3	4 4 4 4	Situated on adjacent land. Multi- stemmed at ground level with a balanced crown. Included bark present at the stem junction.	No action required. n/a	GOOD	FAIR	LOW	MOD	10+	C 1

Tree Ref.	Age Common Name Botanical Name	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations Priority	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
G 35	Early-mature Sycamore Acer pseudoplatanus	To 14	1	2 n/a	To 38#	See plan	Situated on adjacent land. Three trees of reasonable form in a close knit group. Bark wounds noted on the main stems. Not fully inspected due to limited access.	No action required. n/a	GOOD	FAIR	LOW	MOD	10+	1 C 2
T 36	Mature Common Ash Fraxinus excelsior	19	2	8 S	75#	7# 8# 9# 11#	Situated on adjacent land. Twin- stemmed at 9m with a balanced crown. No evidence of significant pruning. Moderate deadwood and slight die- back noted. Decay is present at the base. Not fully inspected due to limited access.	No action required. n/a	FAIR	FAIR	LOW	MOD	10+	1 C 2
G 37	Young to semi- mature Mixed Details in observations	To 13	0+	0+ n/a	To 15	See plan for indicative crown spreads.	Understory Sycamore, Common Ash, Goat Willow, English Elm, Hawthorn and Holly of poor individual form and little significance.	No action required. n/a	GOOD	FAIR	LOW	LOW TO HIGH	10+	C 1

Appendix 2: Explanation of Tree Descriptions

A2.1 Measurements/ Reference Information

- A2.1.1 *REF NUMBER*. All items surveyed are allocated a reference number preceded with a letter, identifying the type of vegetation surveyed: T = an individual tree, G = a group of trees or an area of vegetation, W = woodland, H = a hedgerow.
- A2.1.2 SPECIES: COMMON AND BOTANICAL NAME. The common and botanical names of the species present are noted. If the species is not clear or identifiable, then a general common name and genus will be noted.
- A2.1.3 AGE CLASS of the tree is described as young, semi-mature, early-mature, mature, over-mature, veteran or dead.
- A2.1.4 HEIGHT of the tree is measured in metres from the stem base to the top of the crown.
- A2.1.5 *CROWN HEIGHT* is an indication of the height above ground level at which the crown begins.
- A2.1.6 *STEM DIAMETER* is measured at 1.5 metres above (higher) ground level. Where the tree is multi-stemmed at this point; diameter measurements are taken for each stem. If more than five stems are present, an average stem diameter is taken. If for whatever reason it is not practical to measure multiple-stemmed trees in this way, the diameter is measured close to ground level, just above the root buttress.
- A2.1.7 *CROWN SPREAD* is measured from the centre of the stem base to the tips of the branches to all four cardinal points.
- A2.1.8 *HEIGHT AND DIRECTION OF LOWEST BRANCH*. The height and direction of the lowest significant branch is noted because of potential issues relating to clearances and the need for tree pruning.
- A2.1.9 *NHBC WATER DEMAND*. The water demand of each tree, as listed in NHBC Standards 2010 Chapter 4.2 'Building near trees'. This is included to aid structural engineers, architects and other members of the design team as it determines foundation depth and other considerations with regard to trees.

A2.2 Evaluations

- A2.2.1 *PHYSIOLOGICAL CONDITION* is classed as good, fair, poor, or dead. This is an indication of the health and vitality of the tree and takes into account vigour, presence of disease and dieback.
- A2.2.2 *STRUCTURAL CONDITION* is classed as good, fair or poor. This is an indication of the structural integrity of the tree and takes into account significant wounds, decay and quality of branch junctions.
- A2.2.3 *LIFE EXPECTANCY* is classed as; Dead, less than 10 years, 10+ years, 20+ years, or 40 + years. This is an indication of the minimum number of years before removal of the tree is likely to be required.
- A2.2.4 *AMENITY VALUE*. A general indication is given in respect to the amenity/landscape value of the tree/group within the surrounding area.
- A2.2.5 *PRIORITIES.* A priority rating is given concerning the time periods in which the recommended works should be undertaken. LOW priority works should be undertaken within 12 months of the survey, MOD (moderate) priority works should be undertaken within 6 months and HIGH priority works should be completed as soon as practically possible. If no works are recommended, N/A (not applicable) will be used.

A2.3 Retention Categories

A2.3.1 A (marked green on the plan) = Trees of high quality.

These trees are of high quality and value with a good life expectancy (usually with an estimated remaining life expectancy of 40 years).

A2.3.2 **B** (marked in blue on the plan) = Trees of moderate quality.

These trees are of moderate quality and value with a reasonable life expectancy (usually with an estimated life expectancy of at least 20 years).

A2.3.3 C (marked in grey on the plan) = Trees of low quality.

These trees are of low quality and value but which are in adequate condition to remain or are young trees with a stem diameter below 15cm (usually with an estimated life expectancy of at least 10 years).

- A2.3.4 Trees categorised as retention category 'A', 'B' or 'C' are then justified by being further divided into 3 subcategories:
 - 1 = Mainly arboricultural qualities.
 - 2 = Mainly landscape qualities.
 - 3 = Mainly cultural values, including conservation value.

A2.3.5 U (marked in red on the plan) = Trees usually unsuitable for retention due to poor condition.

These trees are in such a condition that they cannot be realistically retained as living trees in the context of the current land use for longer than 10 years. This may be due to any of the following:

- 1) Failure is likely due to serious, irredeemable, structural defects.
- 2) Removal of other category U trees will render them exposed and unstable.
- 3) They are in serious, overall decline or are dead.
- 4) They are of low quality and suppressing adjacent trees of better quality.
- 5) Diseases are present which may affect the health of adjacent trees.

These trees should be removed or treated in such a way as to make them safe where they have high ecological value, such as in a woodland setting.

Appendix 3: General Guidelines

- A3.1 All tree work should be undertaken to BS 3998: 2010 '*Recommendations for tree work*' or other recognised industry practice.
- A3.2 Staff carrying out the work must be qualified, experienced and ideally be Arboricultural Association approved contractors. They should be covered by adequate public liability insurance.
- A3.3 This report is based upon a visual inspection. The consultant shall not be responsible for events which happen after this time due to factors which were not apparent at the time, and the acceptance of this report constitutes an agreement with the guidelines and the terms listed therein.
- A3.4 Any defects seen by a contractor or the employer that were not apparent to the consultant must be brought to the consultant's attention immediately.
- A3.5 No liability can be accepted by JCA in respect of the trees unless the recommendations of this report are carried out under the supervision of JCA and within JCA's timescale.
- A3.6 It is advisable to have trees inspected by an arboricultural consultant on a regular basis.

Appendix 4: Glossary of Terms & Abbreviations

Arboriculture	The cultivation of trees in order to produce individual specimens of the greatest ornament, for shelter or any primary purpose other than the production of timber or fruit.
Canker	Disease damaged area of a tree, usually caused by fungus or bacteria affecting the bark.
Co-dominant stem	A stem which has grown in direct competition to the main stem and which has formed a substantial size influencing the appearance of the tree.
Crown lift	The removal of the lowest branches, usually to a given height. It allows more residual light and greater clearance underneath for vehicles etc.
Crown reduction	The reduction of a tree's height and spread while preserving its natural shape.
Crown thin	The removal of some of the density of a tree's crown, usually 5-25% allowing more light through its canopy and reducing wind resistance.
Deadwood	Either dead branches, or a procedure involving the removal of dead, dying and diseased branches.
Dieback	Where branches are beginning to show signs of death usually at the tips in the crown.
Epicormic shoots	Small branches that grow in clusters around the base of the stem of a tree or within the crown. This is usually as a result of bad pruning or some other stress factor, although can be a natural growth pattern for some species of tree (eg Lime species).
Included bark	Where the bark on two adjoining branches or stems is growing tight together, forming a joint with limited physical strength.
Pollarding	A method of tree management in which the main trunk and principle branches of the tree are cut to the same height, and the resulting branches are then cropped on a regular basis.
Remedial pruning	The removal of old stubs, deadwood, epicormic growth, rubbing or crossing branches and other unwanted items from the tree's crown. Sometimes referred to as crown cleaning.
RPA	Root Protection Area – Theoretical rooting area of a tree as defined in BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.

Appendix 5: Author Qualifications

Principal Consultant and Managing Director

Jonathan Cocking F.R.E.S., Tech. Cert. (Arbor.A), PDipArb (RFS) FArborA CBiol MSB. MICFor. Jonathan is a Registered Consultant and Fellow of the Arboricultural Association and sits on its Professional Committee. He has 31 years experience in the Arboricultural profession and served for eight years as Senior Arboriculturist with a large local authority before establishing JCA in 1997. Jonathan has since developed JCA's portfolio of services and its extensive client base. He is a Chartered Biologist, a Chartered Arboriculturalist and an Expert Witness with much experience of litigation work.

Technical Director

Toby Thwaites *BSc (Hons), HND (Arboriculture).* Toby joined JCA in 1998 after graduating in Ecology at the University of Huddersfield and has since graduated in Arboriculture at the University of Central Lancashire. A former JCA team leader and Consulting Arboriculturist, Toby is now Technical Director and oversees all office and on-site activities at JCA and is on hand to offer technical support and advice.

Consulting Staff: Arboriculture

Toby Parsons Cert. Arb. (RFS), Tech. Cert. (Arbor.A). Toby joined JCA after spending 6 years working as a senior climber for various Arboricultural contractors in the East Midlands and the South-West. He has gained the Level 2 Certificate in Arboriculture (RFS) and an Arboricultural Technicians Certificate. Toby is LANTRA certified in Professional Tree Inspection.

Scott Reid ND (Arboriculture and Forestry). Scott joined JCA after working with other consultancy companies in the south of England. He specialises in trees in relation to development and holds a National Diploma, various NPTC qualifications and is currently studying for his Level 4 Diploma in Arboriculture.

Andrew Bussey. Andrew joined JCA having spent 12 years working as a tree surgeon for various private companies and a Local Authority. He has various NPTC qualifications, is QTRA qualified and is currently studying for his Arboricultural Technicians Certificate.

Phil Humeniuk *FdSc (Arboriculture).* Phil joined JCA having spent 3 years working for various tree surgery companies and as a Tree Officer for a Local Authority. He also has several years experience working as a consultant both for JCA and for another consultancy. Phil obtained his foundation degree in Arboriculture at the University of Central Lancashire and has various NPTC's and is LANTRA certified in Professional Tree Inspection.

Emily Wilde *FdSc (Arboriculture).* Emily joined JCA having previously worked for various private tree surgery and consultancy companies over the past 8 years. She initially obtained a ND in Forestry & Arboriculture, followed by a FdSc in Arboriculture at Askham Bryan College, York. Emily has various NPTC certificates and is QTRA qualified.

Mick Eltringham *ND* (*Forestry*). Mick joined JCA after spending 12 years working in the industry for various private companies in the north and south of England. He has also spent the last five years working as a consultant for two canopy research projects in the Amazon Rainforest, working with Oxford University and the University of Arizona. He has various NPTC Qualifications.

Charles Cocking (*FdSc Arboriculture*). Charles joined JCA in January 2014 as an Apprentice having previously worked for the company on a part time basis during 2013. Charles obtained his Foundation Degree in Arboriculture at Askham Bryan College, York, and is now part of our qualified Arboricultural consultancy team.

Consulting Staff: Ecology

David Bodenham *BSc Ind (Hons) Zoology, MSc Biodiversity and Conservation.* David joined JCA as an addition to the expanding ecology department. An advocate of evidence based conservation, he studied Zoology (Ind) at University and moved onto an MSc in Biodiversity and Conservation where he gained the myriad of skills needed as an ecologist. With over 7 years of experience, David specialises in bat and amphibian ecology.

Jenny Butler *Bsc (Hons) Environmental Science.* Jenny joined JCA's ecology department in 2017, bringing with her a bachelor degree in Environmental Science from Bangor University. Jenny has previously worked as an Environmental Consultant for an Agri-Environment company and as a freelance ecological consultant. Jenny specialises in great crested newt and bat ecology.

Amanda Beck *Cert He in Field Ecology.* Amanda joined JCA's ecology department in 2018, previously working as a freelance Ecological Consultant in North Wales and Liverpool and as a trainee Ecologist in South Wales. Amanda has extensive practical experience in surveying for botanical, amphibians, terrestrial and marine mammals along with invertebrate research work. She has practical experience in habitat management and creation and is a CIEEM student member.

Administrative Staff

Sue Guest Administrative Team Leader. **Catherine Cocking** Accounts Manager. **Lisa Hampson** Marketing Manager. Simeon Haigh *BSc (Hons)*. IT Director. Lorraine Spink Administrative Assistant.



Appendix 6: **Tree Constraints Plan** ADDRESS: Victoria Mill, Watt Street, Sabden, Lancashire, BB7 9ED. JCA REF: 13611-A/AJB. SCALE : 1:500 PAPER SIZE : A2 SURVEYED BY: AJB DRAWN BY: AJB APPROVED BY: CH BRITISH STANDARD 5837:2012: 4.5 RETENTION CATEGORIES Detailed definitions of these catagories are at Appendix 2 of c report. N.B. These categories do not necessarily represent or correspond to recommendations for action made in this report CATEGORY A: 'RETENTION MOST DESIRABLE CATEGORY B: 'RETENTION DESIRABLE \mathbb{C} CATEGORY C: 'TREE WHICH COULD BE RETAINED' \bigcirc CATEGORY U: 'TREE FOR REMOVAL' \bigcirc STEM OF TREE TO BE RETAINED • STEM OF TREE TO BE REMOVED • ROOT PROTECTION AREA Limited Arboricultural & Forestry Consultants

 $W \xrightarrow{N} E$



I hope that this report provides all the necessary information, but should any further advice be needed please do not hesitate to contact the author.

Signed

Andrew Bussey.

15th March 2018

For and on behalf of JCA Ltd

Registered Office:

Unit 80 Bowers Mill Branch Road Barkisland Halifax HX4 OAD

Tel. 01422 376335 Fax. 01422 376232 Email: jon@jcaac.com

www.jcaac.com

Report printed on recycled paper

JCA Ltd. Arboricultural and Ecological Consultants Professional Tree and Ecology Advice nationwide

ARBORICULTURAL SERVICES

Guidance for Architects and Developers

- British Standard 5837 Tree Surveys
- Arboricultural Implication Assessments (AIA)
- Arboricultural Method Statements (AMS)

Tree Advice for the Legal Profession

- Subsidence Litigation
- Personal Injury and Accident Investigation
- Expert Witness, Planning Inquiries and Appeals

ECOLOGICAL SERVICES

Ecological Pre-Planning Services

- Phase 1 Habitat Surveys
- Great Crested Newt eDNA Sampling
- Protected Species: Bat, Wintering and Nesting Bird, Badger, Amphibian, Otter, Water Vole, White-Clawed Crayfish, Dormice and Reptile Surveys.
- Preparation for Environmental Impact Assessment (EIA)
- Invasive Species Surveys
- Code for Sustainable Homes

Advice for Engineers, Loss Adjusters and Insurers

- Tree Surveys for Subsidence
- Heave Assessment
- Tree Root Identification

Veteran Tree Management

- Ancient Woodland Management
- Veteran Tree Management

Advice for Local Authorities and Social Housing

- Tree Safety Surveys
- Specialist Decay Detection
- Landscape and Orchard Design

Tree Health and Pest and Disease Management

- Pest and Disease Surveys
- Tree Health Checks
- Disease Mitigation and Control

Ecological Post-Planning Services

- Biodiversity Enhancement Plans
- Protected Species Mitigation
- Ecological Management (Bat and Bird box installation and inspection)

HEAD QUARTERS:

Unit 80 Bowers Mill, Branch Road, Barkisland, Halifax, HX4 0AD. Tel: 01422 376335 Mobile: 07778 391986 Email: jon@jcaac.com Website: www.jcaac.com

