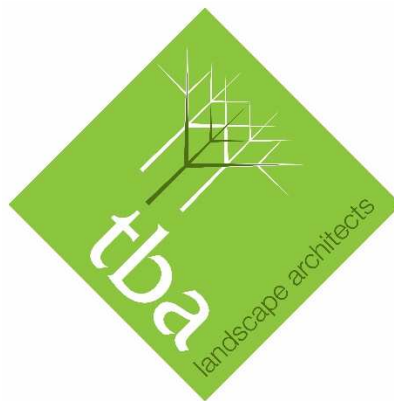


**Land at Hollin Cross Lane
Glossop**

Glossop Eden Ltd

**ARBORICULTURAL IMPACT ASSESSMENT
AND
METHOD STATEMENT
(Revision C)**



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Contents

1.0 Introduction

2.0 Arboricultural Impact Assessment

3.0 The Arboricultural Impact Table – Key

3.2 Arboricultural Impact Table – Cascade Chart

3.3 Arboricultural Impact Table – Results

4.0 General Issues

5.0 Arboricultural Method Statement

6.0 Method Statement Schedule

APPENDIX A - SIGNS TO ATTACH TO PROTECTIVE BARRIER FENCING

APPENDIX B – SITE INSPECTION PRO-FORMA

APPENDIX C – GROUND PROTECTION BOARDS

APPENDIX D – SUMMARY OF CHANGES WITHIN LATEST REVISION

Land at Hollin Cross Lane, Glossop

1.0 Introduction

- 1.1 This document has been prepared by Trevor Bridge Associates on the behalf of Glossop Eden Ltd. It provides an Arboricultural Impact Assessment (AIA) and Arboricultural Method Statement (AMS) in regard the following proposed development.
- Demolition of existing structures, construction of 24 dwellings (including conversion of Redcourt House).
- 1.2 This document follows, and should be read in conjunction with, a pre-development tree survey that was undertaken by TBA Ltd in May 2019 and revised in January 2023 (*ref. MG.6004.TSR.REV A.JAN23*).
- 1.3 For the purposes of preparing this document the following material was referenced:
- Pozzoni Architecture drawing: **Site Plan. Drawing No. 5417_1100. Rev. P18. Date: 09/04/20.**
 - Betts-associates drawing. **External Works. Drawing No. 5417/BET/ZZ/XX/DR/C/301. Revision I. Date: July 2021**
- 1.4 This report assesses the potential impacts to trees as a consequence of the development proposals, as well as specifying the necessary methodologies required during construction to ensure that trees being retained are afforded adequate protection from harm.
- 1.5 Accompanying this report is the following drawing which must be read in conjunction with this report:
- **TBA Drawing: Tree Protection Plan. Drawing No. 6004.02. Revision C. Date started: July 2020.**
- 1.6 A summary of changes to the impact of trees within the site, as a consequence of the latest revision is listed in *Appendix D – Summary of Changes within latest revision*.

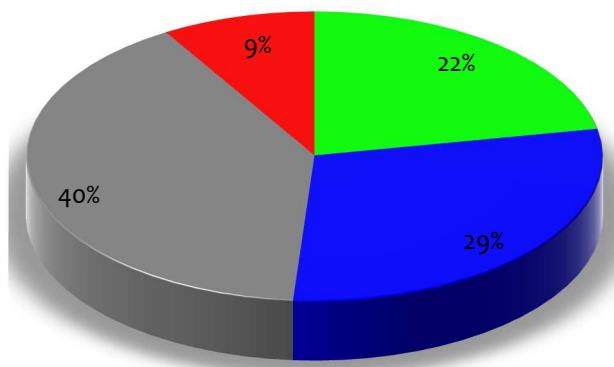
2.0 Arboricultural Impact Assessment

2.1 The consequences on existing trees situated within and adjacent the proposed development site are considered.

2.2 The value of the trees and vegetation surveyed

In the initial tree survey report a total of 127 items were surveyed within and adjacent the development site. These items comprised 108 individual trees, 18 groups, 1 hedge and single woodland area. The chart and table below show the ratio of tree retention categories on the site and number of items (be it groups or individuals etc that were surveyed).

Tree/hedge retention category ratios



■ A
■ B
■ C
■ U

Retention Category	No.
A (High Value)	28
B (Moderate value)	37
C (Low value)	51
U (Remove)	11

3.0 Arboricultural Impact Table - Key

- 3.1 The Arboricultural Impact Table (section 3.3) lists all items surveyed within the site. The tree data is taken from the initial tree survey report. The table is colour coded for ease of reference, particularly in relation to the value of trees and the potential impact that may occur to them:

Tree Values

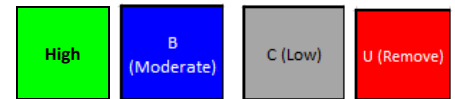
High	High value tree / group / hedge as included within the initial tree survey
B (Moderate)	Moderate value tree / group / hedge as included within the initial tree survey
C (Low)	Low value tree / group / hedge as included within the initial tree survey
U (Remove)	Tree / group / hedge in poor condition. Retention unsustainable within context of development

Impacts on Tree's / Groups

Removal	Tree / Group / Hedge will require removal in order to facilitate the development proposals
Partial Removal	Group or hedge will require partial removal to facilitate the development proposals
High	The development proposals will have a high impact the on the tree /group / hedge
Moderate	The development proposals will have a moderate impact on the tree / group /hedge
Low	The development proposals will have a low impact on the tree / group / hedge
None	The development proposals will have no impacts on the tree / group / hedge

3.2 Arboricultural Impact Table - Cascade Chart:

3.2.1 Tree **Values** are taken from BS: 5837 and comprise of the following:



3.2.2 The **Impacts** comprise of 6 elements:



3.2.3 Causes of impacts comprise of 6 factors: **'None'**, **'To facilitate development'**, **'Due to poor condition'**, **'Direct disturbance to roots'**, **'Pruning required'** and **'Possible future pruning pressure due to shade and other factors'**.

3.2.4 Comments are also included providing more information where necessary.

	REMOVAL	PARTIAL REMOVAL	HIGH	MODERATE	LOW
TO FACILITATE DEVELOPMENT	Tree / group requires removal.	Partial removal of group is required. i.e., 'a section of hedge may require removal to allow a new access road'.	N/A	N/A	N/A
DUE TO POOR CONDITION	Tree or group require removal due to poor structural and / or physiological condition.	Part of group require removal due to poor structural and / or physiological condition.	N/A	N/A	N/A
DIRECT DISTURBANCE TO ROOTS	N/A	N/A	In many case this will result in the loss of tree/s - refer to 'TO FACILITATE DEVELOPMENT' . In rare cases a Tree/s may be retained but damage will occur to the roots.	Disturbance will be caused to roots of a tree/s that are likely to result in some physiological and structural dysfunction. The extent of damage does not require trees to be felled. Remedial actions may be taken in some cases that would help mitigate against damage but site topography, tree age, condition and species condition may result in disturbance being considered MODERATE as opposed to LOW .	Activity will occur within the root protection area of trees which will have a low impact, or can be mitigated by special measures.
PRUNING REQUIRED	N/A	N/A	Pruning that may retain a tree but will have a potential impact on the tree condition and visual appearance	Pruning is required that is acceptable within recommendations within BS3008:2010, but would require a material alteration to the tree/group affected.	Pruning is required that will have little impact to the structural, physiological and visual amenity of a tree or group.
POSSIBLE FUTURE PRUNING PRESSURE DUE TO SHADE OR OTHER FACTORS	Removal of tree/s required as retention is unsustainable and/or undesirable within the context of development. i.e. fast growing tree in small garden.	Partial removal of tree/s required as retention is unsustainable and/or undesirable within the context of development. i.e. fast growing tree in small garden.	Tree/s likely to cause significant shading. i.e. small garden areas with dense mature trees to south.	Some level of shade or other inconvenience will occur. Not highly oppressive, but some residents may seek management of trees in long term.	Some level of shading / overhang will occur.

Land at Hollin Cross Lane, Glossop

3.3 ARBORICULTURAL IMPACT TABLE - RESULTS

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
1G	6x Lime	A (High)	Partial Removal	To facilitate development	New access into site requires removal of two trees within the row.	
			Low	Direct impact to roots	The most easterly of the retained trees will incur disturbance within the root protection area.	Initial excavation works are to be undertaken under supervision. Any roots found are to be cleanly cut with secateurs/loppers. An area surrounding the tree to be subject to root zone amelioration via removal of existing turf/flora, application of soil improver and mulching.
2T	Sycamore	B (Moderate)	None	N/a	Existing section of hard surface to be removed and replaced with top-soil. .	Removal of existing hard surface to be undertaken in a controlled manner under direct supervision of the project arboriculturalist.
3T	Sycamore	B (Moderate)	None	N/a	No impacts to tree.	
4T	Sycamore	A (High)	None	N/a	Existing section of hard surface to be removed and replaced with top-soil. .	Removal of existing hard surface to be undertaken in a controlled manner under direct supervision of the project arboriculturalist.

Land at Hollin Cross Lane, Glossop

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
5T	Silver Birch	B (Moderate)	Moderate	Direct disturbance to roots	Some 30% of the nominal root protection area will be impacted by installation of new footway/highway. The tree will however benefit from an improved root zone in some sections where existing hard surfacing is to be removed and reinstated with soil.	Removal of existing hard surface to be undertaken in a controlled manner under the direct supervision of the project arboriculturalist. An area surrounding the tree to be subject to root zone amelioration via removal of existing turf/flora, application of soil improver and mulching.
6T	Holly	C (Low)	Removal	To facilitate Development	New access requires removal of tree.	
7T	Lawson's Cypress	C (Low)	Removal	To facilitate Development	New access requires removal of tree.	The tree may be retained. The existing access hard surface to be removed in a controlled manner under the direct supervision of the project arboriculturalist.
8T	Lawson's Cypress	C (Low)	Removal	To facilitate Development	New access requires removal of tree. Stump of this tree must be removed using a self-powered stump grinder or left in situ.	The tree may be retained. The existing access hard surface to be removed in a controlled manner under the direct supervision of the project arboriculturalist.
9T	Sycamore	A (High)	Low	Direct disturbance to roots	New footway to be constructed some 0.5m into existing verge. Increase in an improved rooting zone is therefore possible.	The tree may be retained. The existing access hard surface to be removed in a controlled manner under the direct supervision of the project arboriculturalist.

Land at Hollin Cross Lane, Glossop

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
10T	Beech	A (High)	Low	Direct disturbance to roots	While a section of the south-west nominal root protection area will be lost for the construction of new parking bays – a significant area of the root protection area will have existing hard standing removed a re-instated with top-soil, a significant increase in an improved rooting zone is therefore possible.	Removal of existing hard surface to be undertaken in a controlled manner under the direct supervision of the project arboriculturalist.
11T	Sycamore	A (High)	Low	Direct disturbance to roots	A significant area of the root protection area will have existing hard standing removed a re-instated with top-soil, a significant increase in an improved rooting zone is therefore possible.	Removal of existing hard surface to be undertaken in a controlled manner under the direct supervision of the project arboriculturalist.
11Ta	Ash	C (Low)	Removal	To facilitate development		
12T	Holly	C (Low)	Removal	To facilitate development		
13T	Deodar Cedar	C (Low)	Removal	To facilitate development		

Land at Hollin Cross Lane, Glossop

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
14T	English Yew	B (Moderate)	Removal	To facilitate development		
15T	Copper Beech	C (Low)	Removal	To facilitate development		
16T	Holm Oak	B (Moderate)	Removal	To facilitate development		
17T	Lime	B (Moderate)	Moderate	Direct disturbance to roots	Existing hard surface to the south and east of the tree is to be removed and reinstated with top-soil. . An area surrounding the tree to be subject to root zone amelioration via removal of existing turf/flora, application of soil improver and mulching.	Existing hard surface area around the tree to be removed in a controlled manner under direct supervision of the project arboriculturalist.
18G	Lime, Sycamore and Ash	B (Moderate)	None	Direct disturbance to roots		
19T	Flowering Cherry	C (Low)	Removal	To facilitate development	This tree is technically retainable, but the open space area in which this tree occupies would be better utilised with a replant.	

Land at Hollin Cross Lane, Glossop

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
20G	Mixed Species Group	C (Low)	Removal	To facilitate development		
20T	Laburnum	C (Low)	Low	Direct impacts to roots	Successful retention of the tree requires controlled removal of adjacent kerbing and hard surfacing.	Amelioration of surrounding root area to be undertaken following removal and reinstatement of a section of surrounding hard surface area.
21T	Sycamore	B (Moderate)	Removal	To facilitate development		
22T	Variegated Holly	C (Low)	Removal	To facilitate development		
23T	Sycamore	B (Moderate)	Removal	To facilitate development		
24T	Sycamore	B (Moderate)	Low	Direct disturbance to roots	Existing structures within the vicinity of this tree are to be demolished.	Tree protection barrier fencing to be erected around structures to ensure protection of rooting zone during demolition.
25H	Leyland Cypress Row	C (Low)	None	N/a		

Land at Hollin Cross Lane, Glossop

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
26T	Beech	A (High)	Removal	To facilitate development		
27T	Lime	B (Moderate)	Removal	To facilitate development		
28T	Lime	B (Moderate)	Removal	To facilitate development		
29T	Ash	C (Low)	Removal	To facilitate development		
30T	Lime	A (High)	Low	Direct disturbance to roots	Existing sunken garden area provides buffer from works close to the tree. Some element of disturbance will occur.	Existing retaining wall of the sunken garden to be removed to allow new retaining wall construction.
			Low	Possible future pruning pressure due to shading and/or other factors	Tree will contribute to shading of plot 10, though this will occur within the late afternoon (based in 21 st March)	
31T	Sycamore	B (Moderate)	Low	Direct disturbance to roots		

Land at Hollin Cross Lane, Glossop

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
32T	Horse Chestnut	A (High)	None	N/a		
33T	Sycamore	A (High)	None	N/a		
34T	Sycamore	B (Moderate)	None	N/a		
35T	Elm	C (Low)	None	N/a		
36	Number not allocated					
37T	Lime	A (High)	None	N/a		
38T	Lime	A (High)	None	N/a		

Land at Hollin Cross Lane, Glossop

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
39T	Horse Chestnut	C (Low)	None	N/a		
40G	Mixed Species Group	A (High)	None	N/a		
41G	3x Sycamore	B (Moderate)	None	N/a		
42T	Yew	B (Moderate)	Removal	To facilitate development		
43T	Lime	A (High)	Moderate	Direct disturbance to roots	Tree may be retained but disturbance within the nominal root protection area will occur.	Initial excavation works are to be undertaken under supervision. Any roots found are to be cleanly cut with secateurs/loppers. An area surrounding the tree to be subject to root zone amelioration via removal of existing turf/flora, application of soil improver and mulching.
44T	Sycamore	B (Moderate)	Removal	To facilitate development	New footway/highway requires removal of this tree.	

Land at Hollin Cross Lane, Glossop

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
45T	Lime	A (High)	High	Direct disturbance to roots	Tree may be retained but disturbance within the nominal root protection area will occur.	Initial excavation works are to be undertaken under supervision. Any roots found are to be cleanly cut with secateurs/loppers. An area surrounding the tree to be subject to root zone amelioration via removal of existing turf/flora, application of soil improver and mulching.
46T	Ash	C (Low)	None	N/a		
47T	Sycamore	B (Moderate)	Low	Direct disturbance to roots	Ingress into the outer root protection area for installation of access highway. Level alterations at this point are minimal, thus minimising regrading/batter requirements to the edge of the proposed highway.	
48T	Sycamore	C (Low)	None	N/a		
49T	Norway Maple	C (Low)	High	Pruning required	Monolith the tree to some 9m above ground level due to previous fractures that have occurred within the canopy.	

Land at Hollin Cross Lane, Glossop

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
50T	Horse Chestnut	B (Moderate)	None	N/a		
51T	Beech	A (High)	Low	Direct disturbance to roots	Minor ingress within the outer root protection area for engineering external works adjacent the location of the bin-store.	
52T	Sycamore	C (Low)	None	N/a		
53T	Sycamore	C (Low)	None	N/a		
54T	Lime	B (Moderate)	Low	Direct disturbance to roots	Minor ingress within outer nominal root protection area.	
55T	Lime	B (Moderate)	Removal	To facilitate development		
56T	Sycamore	C (Low)	None	N/a		

Land at Hollin Cross Lane, Glossop

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
57T	Lime	B (Moderate)	None	N/a		
58T	Lime	B (Moderate)	None	N/a		
59T	Lime	A (High)	None	N/a		
60T	Lime	U (Poor)	Removal	Due to poor condition		
61T	Sycamore	B (Moderate)	Moderate	Direct disturbance to roots	Tree may be retained but disturbance within the nominal root protection area will occur. Initial excavation works are to be undertaken under supervision. Any roots found are to be cleanly cut with secateurs/loppers. An area surrounding the tree to be subject to root zone amelioration via removal of existing turf/flora, application of soil improver and mulching.	Existing concrete path situated within the nominal root protection area of this tree. The existing path is either to remain in situ, or be removed in a controlled manner. It is possible that the path can be incorporated into the new layout.

Land at Hollin Cross Lane, Glossop

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
62T	Horse Chestnut	B (Moderate)	Removal	To facilitate development	Tree required removal for construction of bin-store.	
63T	Leyland Cypress	C (Low)	Removal	To facilitate development		
64T	Lime	A (High)	Low	Direct disturbance to roots	Demolition of adjacent former gym and construction of retaining structure required within the vicinity of the tree.	
65T	Lime	A (High)	Low	Direct disturbance to roots	Demolition of adjacent former gym and construction of retaining structure required within the vicinity of the tree.	
66T	Sycamore	C (Low)	None	N/a		
67T	Lime	B (Moderate)	Low	Direct disturbance to roots	Minor ingress in the outer root protection area for installation of access road.	
68T	Beech	A (High)	Low	Direct disturbance to roots	Minor ingress in the outer root protection area for installation of access road.	

Land at Hollin Cross Lane, Glossop

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
69T	Ash	C (Low)	Low	Direct disturbance to roots	Minor ingress in the outer root protection area for installation of access road.	
70T	Hawthorn	C (Low)	None	N/a		
71T	Sycamore	C (Low)	None	N/a		
72T	Beech	B (Moderate)	None	N/a		
73T	Ash	C (Low)	High	Pruning required	The tree may be retained in a reduced form, or as a monolith. The tree contains some veteran features (cavities) that may provide wildlife habitat benefit.	Heavily reduce the canopy or monolith.
74T	Sycamore	C (Low)	None	N/a		
75T	Lime	A (High)	None	N/a		

Land at Hollin Cross Lane, Glossop

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
76T	Ash	U (Poor)	High	Pruning required	Tree impacted by Ash Dieback.	It is proposed to monolith the tree to several metres above ground level and retain as a monolith.
77T	Elm	C (Low)	Removal	To facilitate development		
77aT	Norway Maple	C (Low)	None	N/a		
78T	Elderberry	C (Low)	Removal	To facilitate development		
79G	4x Goat Willow	C (Low)	Removal	To facilitate development		
80T	Holly	C (Low)	Removal	To facilitate development		
81T	Flowering Cherry	C (Low)	Removal	To facilitate development		

Land at Hollin Cross Lane, Glossop

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
82T	Lawson's Cypress	C (Low)	Removal	To facilitate development		
83T	Ash	C (Low)	Removal	To facilitate development	Borderline 'U' value tree.	Removal and replacement of the tree is considered the most sustainable approach.
84T	Ash	C (Low)	Removal	To facilitate development	Borderline 'U' value tree.	Removal and replacement of the tree is considered the most sustainable approach.
85G	Ash and Goat Willow	C (Low)	Low	Possible future pruning pressure due to shading and/or other factors	Tree will contribute to morning shading, but not impede direct sunlight from mid-morning onwards (based on 21 st March).	
86T	Silver Birch	B (Moderate)	Low	Possible future pruning pressure due to shading and/or other factors	Tree will contribute to morning shading, but not impede direct sunlight from mid-morning onwards (based on 21 st March).	
			Low	Direct impacts to roots	Minor impact within the outer root protection area for construction of retainer.	
87G	2x Goat Willow	C (Low)	Low	Possible future pruning pressure due to shading and/or other factors	Trees will contribute to morning shading, but not impede direct sunlight from mid-morning onwards (based on 21 st March).	

Land at Hollin Cross Lane, Glossop

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
88T	Ash	B (Moderate)	Low	Possible future pruning pressure due to shading and/or other factors	Trees will contribute to morning shading, but not impede direct sunlight from mid-morning onwards (based on 21 st March).	
89T	Elm	C (Low)	None	N/a		
90T	Ash	B (Moderate)	None	N/a		
91T	Sycamore	B (Moderate)	Low	Possible future pruning pressure due to shading and/or other factors	Trees will contribute to morning shading, but not impede direct sunlight from mid-morning onwards (based on 21 st March).	
			Low	Direct impacts to roots	Minor impact within the outer root protection area for construction of retainer.	
92T	Sycamore	C (Low)	Low	Possible future pruning pressure due to shading and/or other factors	Trees will contribute to morning shading, but not impede direct sunlight from mid-morning onwards (based on 21 st March).	
93T	Sycamore	A (High)	Low	Possible future pruning pressure due to shading and/or other factors	The tree will contribute to shading of adjacent Plot in the morning. However, the Plot will be unaffected from mid-day.	

Land at Hollin Cross Lane, Glossop

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
94T	Lime	C (Low)	Low	Possible future pruning pressure due to shading and/or other factors	The tree will contribute to shading of adjacent Plot in the morning. However, the Plot will be unaffected from mid-day.	
95T	Sycamore	C (Low)	None	N/a		
96T	Horse chestnut	A (High)	Moderate	Possible future pruning pressure due to shading and/or other factors	The tree will contribute to morning shading of adjacent plots.	
			Low	Direct impacts to roots	Minor impact within the outer root protection area for construction of retainer.	
97T	Ash	U (Poor)	High	Pruning required	Monolith the tree to several metres height above ground level.	
98T	Sycamore	C (Low)	Removal	To facilitate development	Whilst the tree is technically retainable, it is a low value tree and its removal will lessen shade impacts within plot 26.	
99T	Ash	C (Low)	Removal	To facilitate development		

Land at Hollin Cross Lane, Glossop

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
100T	Goat Willow	C (Low)	Removal	To facilitate development		
101G	Group of Goat Willow	C (Low)	Removal	To facilitate development		
102T	Sycamore	B (Moderate)	None	N/a	Proposed path in this location to be constructed using non-dig. The location of the path is subject to final determination.	
			Low	Possible future pruning pressure due to shading and/or other factors	The tree will contribute to partial shading of plot 20 in the morning and mid-day.	
103T	Ash	U (Poor)	High	Pruning required	Monolith the tree.	
103aT	Elm	U(poor)	Removal	Due to poor condition		
103bT	Silver Birch	B (Moderate)	None	N/a		

Land at Hollin Cross Lane, Glossop

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
104T	Horse Chestnut	A (High)	Low	Direct disturbance to roots	Minor impact within section of the tree's outer root protection area for construction of car-parking bays.	Pedestrian footpath passing within the root protection area to be constructed using a non-dig methodology.
			Low	Possible future pruning pressure due to shading and/or other factors	Tree will create morning shade to frontage of plots 18 & 19.	
105T	Sycamore	B (Moderate)	Low	N/a		
106T	Ash	U (Poor)	High	Pruning required	Monolith the tree.	
107T	Sycamore	B (Moderate)	Low	Possible future pruning pressure due to shading and/or other factors	Tree will create partial morning shade to plots 18 & 19.	
108T	Ash	C (Low)	Removal	To facilitate development		

Land at Hollin Cross Lane, Glossop

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
109T	Horse Chestnut	B (Moderate)	Low	Direct disturbance to roots	Minor ingress in the outer root protection area for installation of access road.	
110T	Lime	A (High)	High	Direct disturbance to roots	Ingress into nominal root protection area for installation of access road and retaining structure adjacent car-parking area of adjacent plot.	. Initial excavation works are to be undertaken under supervision. Any roots found are to be cleanly cut with secateurs/loppers. An area surrounding the tree to be subject to root zone amelioration via removal of existing turf/flora, application of soil improver and mulching.
111G	7x Ash	U (Poor)	High	Pruning required	Fell/ monolith trees. Trees in the vicinity of Slatelands Road to be felled, all others within the group are to be monolithed.	
112T	Hawthorn	C (Low)	None	N/a		
113G	2x Elm	C (Low)	None	N/a		
114G	Row of Hawthorn	C (Low)	Low	Pruning required	Trim back the lateral foliage hard to provide clearance of rear garden of adjacent plots.	

Land at Hollin Cross Lane, Glossop

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
115G	Group of Goat Willow	C (Low)	Low	Possible future pruning pressure due to shading and/or other factors	This group can be included within future management/replanting along with 122W	Minor shade impacts to adjacent plots.
116T	Ash	C (Low)	None	N/a	Proposed path in this location to be constructed using non-dig. The location of the path is subject to final determination.	
117T	Sycamore	U (Poor)	Removal	To facilitate development		
118G	Mixed Species Group	A (High)	Moderate	Possible future pruning pressure due to shading and/or other factors	Some sections of the group will contribute to shading of plot 20. While one of the most shaded plots within the site, the level of shading falls within acceptable parameters. The trees have reached a climatic height and shade impacts will not increase.	Proposed path in this location to be constructed using non-dig. The location of the path is subject to final determination.
119G	Row of Sycamore	B (Moderate)	Removal			
120G	Norway Maple and Hawthorn	C (Low)	None	N/a		

Land at Hollin Cross Lane, Glossop

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
121G	Mixed Species Group	A (High)	None	N/a		
122W	Woodland Group	A (High)	Moderate	Possible future pruning pressure due to shading and/or other factors	Shading will occur to plots 11 & 12 in the afternoon (based on 21 st March). Shade impacts will not significantly increase in the future.	The woodland group is to be subject to a woodland management plan for a period no less than 5 years. The management plan will increase the biodiversity of the woodland area with new planting.
123G	5x Ash	U (Poor)	High	Pruning required	Monoilth the group of trees.	

4.0 General Issues

4.1 Installation of underground services and engineering works

Engineering works within the site are necessary to address external works requirements. This particularly relates to the need to regrade sections of the site to ensure that new structures such as roads and final floor levels of houses will not result in loss of trees. Use of retaining structures is required within sections of the site. Tree protective fencing positions will allow space for all external works to be undertaken. The External Works drawing includes the location of Construction Exclusion Zones.

- 4.1.1 Drainage will primarily be located within sections of the build environment (such as roads). Full details of drainage will be provided, along with any additional methodologies required for tree protection (such as temporary ground protection and controlled excavation)

4.2 Storage of materials, contractor parking and site logistics

Logistically the site is relatively constrained in regard to access and storage. However adequate existing hard surfaces are present to provide access for demolition operations. No storage, access, nor placement of site cabins is to occur within the Construction Exclusion Zones as shown within the Tree Protection Plan.

- 4.2.1 There is potential for the use of existing hard surface areas to be utilised for site cabins. However, this is subject to a methodology based on the size of any units and related infrastructure.

4.3 Demolition of existing structures

Temporary protective fencing is to be placed to the edges of existing hard surfaces adjacent trees to be retained prior to the onset of demolition operations. In some cases, space for demolition operations will be constrained, where critical root zones of trees being retained are close to existing structures.

4.4 Level changes on site

No excavation or raising of ground levels are to occur within the Construction Exclusion Zones within the site demarked by tree protection barrier fencing.

4.5 Installation of secondary footpaths within the site

Development proposals include the installation of a footpath providing a pedestrian link from Ashton. The link path position is subject to further detailed design in order to minimise the impact on trees adjacent to the identified route. The ground levels in this location enable the installation of such a path with relative ease using a non-dig three dimensional cellular confinement system.

4.6 Tree pruning/management, replanting and woodland management

The arboricultural Impact Assessment includes pruning recommendations that relate directly to development requirements. A full and detailed schedule of works will be required. Further works will however relate primarily to health and safety considerations to account for the increased 'target' risk resulting from residential development of the site, such as removal of deadwood etc.

- 4.7 New planting will be required within the site, including the woodland area 122W. All new planting shall be subject to a site management plan (based over a minimum period of 5 years). A management plan will provide monitoring of all replants, as well as existing trees. Any management will include ecological objectives as well as arboricultural/woodland objectives.

4.8 Amelioration measures within the root zones of trees

- 4.8.1 It is proposed to provide amelioration of the rooting zones of trees. The works are to be undertaken by qualified landscapers/arboriculturalists only.
- 4.8.2 The following steps are to be taken:
1. Where turf is present it is to be carefully removed around both of the trees to a maximum radius of 3.5m (where space allows). The turf is to be removed using hand tools/ hand operated tools only. Removed turf is to be removed from site.
 2. The exposed section of soil is to be lightly spiked with a fine spoke fork. This should comprise some 5 insertions per M². The intention is not to tiller soil but improve aeration and allow some penetration of soil improver. No insertions are to be made within 1m of the tree trunk to avoid larger structural roots.
 3. A soil improver is to be applied over the exposed soil area. This is to comprise an enhanced biochar powder at a rate of some 500g per M².
 4. Once biochar has been applied, the treated area is to be covered in a woodchip mulch to a thickness no less than 100mm. Care must be taken to ensure clearance of the root-collar of the trees.
 5. A knee high rail fence is to be hand installed around the area of mulch.

5.0 **Arboricultural Method Statement**

- 5.1 The Arboricultural Method Statement (AMS) specifies all measures to be undertaken to ensure the ongoing health and viability of trees to be retained within the proposed development.
- 5.2 This AMS is in compliance with British Standard 5837: 2012. **Accompanying this document is a plan that shows the position of protective fencing and any additional special measures that are required. This plan is referred to as the Tree Protection Plan.**
- 5.3 The AMS must be considered a 'working document'. It must be made available to the developer, site manager, and LPA. A copy of this document and the Tree Protection Plan must be kept on the development site at all times. All site operatives must be briefed on the main contents of this document.
- 5.4 It is the Site/Project Manager's responsibility to ensure that the detail of this AMS and the TPP and any agreed amendments are known and understood by all site personnel. A copy of this AMS and the TPP will be available for reference on site by the Project and Site Managers, and will form the basis of the management of all works relating to the trees on the site following commencement of the project. The Site Manager shall induct all personnel who could have an impact on trees on the content of this document.

5.5 **Tree Works –General Issues**

- 5.5.1 All tree works (tree felling and pruning) are to take place prior to any site operations and immediately before the installation of protective fencing.
- 5.5.2 All works to the existing trees are to be carried out by a fully qualified tree surgeon and in accordance with BS 3998 (2010) *Recommendations for Tree Work*.
- 5.5.3 The necessary tree surgery works should be carried out **before** any construction work starts and immediately before erection of protective fencing. Any works will include any trees that require removal in order to facilitate construction and access. No tree works must be carried out unless permission is provided by the local planning authority. Tree works to any protected trees (trees within a Conservation Area or subject to a Tree Preservation Order) that do not require works to directly enable the development to proceed will require a notification/application to be made to the Local Planning Authority. Any tree works required in order to directly facilitate the development to proceed (such as tree felling) must not proceed unless full planning consent and written consent is given by the local planning authority.
- 5.5.4 Wildlife issues and timing of operations. The following must be observed:
- Bats. Under current legislation it is an offence to 'intentionally or recklessly disturb a bat' or 'damage, destroy or block access to the resting place of any bat'. For further details consultation must be made with the Statutory Nature Conservancy Organisation (Natural England, 0300 060 1842 www.naturalengland.org.uk). Where relevant any current ecological surveys for the site will take precedence in this matter.
- 5.5.5 Birds. It is an offence to kill, injure or take any wild bird; or take, damage or destroy the nest of any wild bird while it is in use or being built. Therefore work likely to disturb nesting birds should be avoided from late March to August.

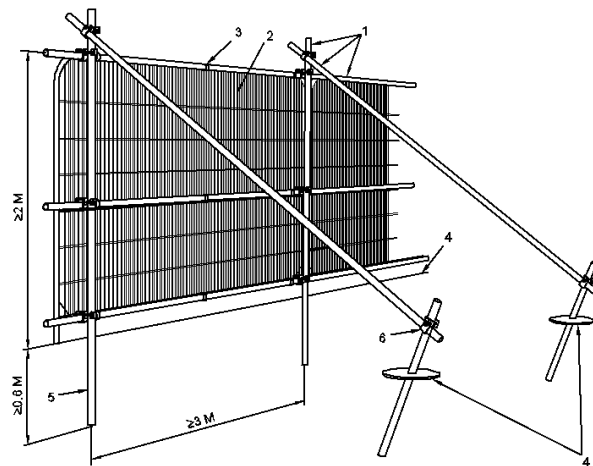
5.6 Tree Protective Barrier Fencing

- 5.6.1 Protective barriers must be erected prior to any site operations. The protective barriers are essential to prevent root severance or compaction of the soil in the Root Protection Areas, and so give the best chance of continued good health of the retained trees.
- 5.6.2 Tree protective barriers are to comprise a vertical and horizontal scaffold framework which is braced to withstand impacts, and not easily moved or relocated by site operatives (to prevent opportunistic moving of the barrier fences). The vertical tubes should be spaced at intervals of no more than 3m and driven securely into the ground. Onto this framework welded mesh panels should be securely fixed (such as Heras).

BS 5837 (2012) Tree Protection Fencing

NOTES

- | | | |
|--|---|--|
| 1. STANDARD SCAFFOLD POLES. | 3. PANELS SECURED TO UPRIGHTS AND CROSS-MEMBERS WITH WIRE TIES. | 5. UPRIGHTS DRIVEN INTO THE GROUND UNTIL SECURE (MINIMUM DEPTH 0.6 M). |
| 2. HEAVY GAUGE 2 M TALL GALVANIZED TUBE AND WELDED MESH INFILL PANELS. | 4. GROUND LEVEL. | 6. STANDARD SCAFFOLD CLAMPS. |



Care must be taken when locating vertical poles to avoid underground services and, in the case of bracing poles, also to avoid contact with structural roots. If the presence of underground services prevents the use of driven poles, an alternative specification should be prepared; such alternatives could include the attachment of the panels to a free standing scaffold support framework.

Where fencing is required adjacent the site boundaries it is acceptable to use Hoarding to double as protective fencing but only where the exact location of the protective fencing is adhered to (as per the Tree Protection Plan) and where it is hand installed only.

- 5.6.3 The accurate placement of fencing is key in achieving adequate protection, especially where works are required closely adjacent the fencing. **Fencing positions are to be determined using Easting and Northing points as determined from the Autocad version of the Tree Protection Plan and fencing position 'nodes' marked out by site engineers.**

5.6.3 Examples of the correct erection of tree protective barrier fencing



Above: Full specification barrier fencing.

Below: Barrier fencing accurately placed adjacent variable and complex working zones.



5.7 General Requirements

- 5.7.1 Developers must enforce the methods of protection identified within the statement. All contractors must also agree to them. Any failure to comply with them must be dealt with by the developer. Any damage that may occur to trees due to failure to observe the method statement must be reported to the Local Planning Authority and arboricultural advice must be sought.
- 5.7.2 No pruning, lopping, felling or severance of roots is to take place without prior consent of the local authority or unless in compliance with specifications included within the Method Statement.
- 5.7.3 **The ground levels within the protected areas, be they fenced or special working areas, must neither be raised nor excavated unless specifically in compliance with requirements within this method statement.**
- 5.7.4 No ropes, cables, services, or notice boards shall be fixed to existing trees.
- 5.7.5 Fires should not be permitted, or else not lit where flames could extend to within 10m of the foliage, branches or trunk of any trees (it should be noted that local environmental health authorities may have specific restrictions on fires),
- 5.7.6 Should temporary access within the Root Protection Area be required that is not included within the method statement, an agreement, in advance, with the consultant and the LPA must be made. The fence may need to be re-aligned and the ground surface protected. For vehicular access this protection will need to be specifically detailed and agreed.
- 5.7.7 Care must be taken in regard to tall or wide loads, or use of plant with booms, jibs and counterweights. Where machinery may be required to operate in the vicinity of trees a banksman must ensure that no direct physical damage is caused to trees. It must be checked that any materials or vehicles entering the site are able to do so without causing damage to adjacent trees.
- 5.7.8 Any material that will contaminate soil (e.g. concrete mixings, and vehicle washings) must not be discharged within 10m of any Root Protection Area. In addition, it is essential that allowance be made for the slope of the ground so that damaging materials cannot run towards trees, or Root Protection Areas. If diesel and fuel containers are used or stored on site they must be kept within a plastic container bund to prevent any ground contamination and spill kits must be kept available to remediate any spillage.

5.8 Arboricultural monitoring

- (i) The arboricultural consultant (or local authority Tree Officer) shall be consulted whenever an unexpected issue occurs that involves any retained tree on site including access within the Protection Area.

Mike Gregory (Arboricultural Consultant) 07515827944.

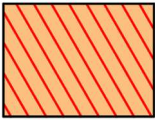
- (ii) No amendments shall be made to the methods detailed in this Arboricultural Method Statement without the agreement of the consultant or local planning authority Tree Officer.
- (ii) If the site agent is at all unclear about exact compliance with any of the above requirements, or if requested by any other party, then a pre-start meeting shall be arranged with the architect, site agent, local authority tree officer and arboricultural consultant in attendance as necessary.

5.9 Health and Safety Issues

All operations must be carried out with full regard to Health and Safety requirements. Due to the diverse nature of recommendations included (e.g. tree surgery works, construction etc) it is necessary that supervisors of those undertaking recommended operations undertake risk assessments prior to starting the relevant works. It should be the Site Managers/developers responsibility to ensure that risk assessments are submitted prior to undertaking relevant works.

36

Phase	Requirements	Method
2 Prior to any construction works on site	Erection of protective fencing: Fencing positions for demolition access (maintaining existing hard surfaces for access):  To retain throughout the duration of the development: 	Protective fencing is to be erected in accordance with 5.6 of AIA/MS report. The fencing must comply with the positions shown in the Tree Protection Plan. Accurate placement of fencing is to be achieved by referencing Easting & Northing points of fence 'nodes' from the AutoCad version of the Tree Protection Plan. Note that some fencing will be erected in specific locations during the demolition phase (to allow access to the site) and be relocated once demolition is complete) See Phase 5 below: No works, no storage of materials, no access, or any ground disturbance is to take place within the Tree Protection Barrier Fencing other than works specified within the Arboricultural Method Statement. Fenced areas are to be treated as Construction Exclusion Zones. Warning signs to be placed on all protective fencing. For large sections of fencing the signs must be placed at 20m intervals. Signs must be laminated and securely attached at all corners. Two signs are to be placed side by side; copies of which are attached within Appendix A.
3 Verifying quality of protective barriers	Verify that the location and quality of tree protection barriers is adequate prior to onset of main site works.	Site visit with Arboricultural Consultant and Site Manager. Tree Officer to be pre-informed of visit. In order for set works to proceed the pro-forma in Appendix B. of the AIA/AMS report is to be completed and passed on to the local planning authority: If the protective barriers are not adequately, work is not to proceed until rectified.
4 Demolition	Demolition to proceed	Tree protection fencing to remain in situ during all demolition works.
5 Relocate protective fencing	Relocate fencing prior to main site works.	Relocation of fencing only applies to section of site adjacent Hollins Cross Lane. Fencing to be relocated to ensure that existing hard surface areas can be subject to controlled removal and reinstatement with soil.

Phase	Requirements	Method
6 Removal of hard surface areas	Controlled removal of existing road/hard surfaces situated adjacent trees to be retained. 	A single panel of the tree protective fencing is to be removed to allow controlled access. 1, Present during the work must be the project arboriculturalist, site manager and site operatives. 2. A panel from the protective fencing is to be removed in order to access the works area. 3. Prybars and/or jackhammer to be used to break edges of surface nearest the tree/s. 4. A mechanical digger to be used to 'peel' away surface of existing road. 5. Mechanical plant is to operate from the intact surfaces of the road, working back. 5. The sub-base of exposed sections of road to be regularly checked by the project arboriculturalist for the presence of roots. If roots are encountered, the project arboriculturalist will advise on whether further excavation shall take place, or how further excavation shall occur. A layer of no-more than 150mm depth good quality top soil to be placed over the removed hard surface to allow for subsequent laying of turf/mulch.
7 Installation of geotextile cellular confinement systems	Installation of three dimensional cellular confinement system.	Installation of non-dig pavement link from Ashton Street. A three dimensional cellular confinement system is to be utilised by default for sections of the secondary paths The final location for the position of the paths is to be determined with the recommendations of the project arboriculturalist. All installations are to be carried out under Arboricultural Supervision. The ground layer in which Cellweb is to be installed is to be subject only to removal of exiting turf layer. A full methodology to be provided once final path locations are determined.
8 Completion of main construction and installation of boundary treatments	Garden and perimeter fencing within RPA of retained trees	Within the RPAs of retained trees the wooden fencing shall be installed as follows: 1. Hand tools only 2. Exploratory post holes to be dug. Any roots encountered less than 2.5cm diameter should be cleanly cut back. 3. Roots in excess of 2.5cm can only be removed once arboricultural advice has been sought. 4. Where roots in excess of 8cm are encountered, an alternative location for the post hole is required. 5. Prior to the pouring of concrete a non-permeable membrane must fully line the post hole.

Phase	Requirements	Method
9 Improvement of rooting zones of 1T & 2T	Removal of turf and addition of improved biochar topped with mulch. 	The following steps are to be taken: 1. An area of existing turf is to be carefully removed around both of the trees to a maximum radius of 3.5m (where space allows). The turf is to be removed using hand tools/ hand operated tools only. Removed turf is to be removed from site. 2. The exposed section of soil is to be lightly spiked with a fine spoke fork. This should comprise some 5 insertions per M². The intention is not to tiller soil but improve aeration and allow some penetration of soil improver. No insertions are to be made within 1m of the tree trunk to avoid larger structural roots. 3. A soil improver is to be applied over the exposed soil area. This is to comprise an enhanced biochar powder at a rate of some 1kg per M². 4. Once biochar has been applied, the treated area is to be covered in a woodchip mulch to a thickness no less than 75mm. Care must be taken to ensure clearance of the root-collar of the trees. 5. A knee high rail fence is to be hand installed around the area of mulch.
10 Completion of main construction and undertaking of landscaping	Landscaping and Dismantling of tree barrier protective fencing.	It is essential that ground levels within the root protection areas are not altered, either by raising or lowering soil levels; even at the landscaping stage. Landscaping operations must be undertaken in a manner that will not impact trees. Landscaping within the root protection area of trees must be undertaken in the following manner: 1. Any existing ground flora (grass/weeds/scrub) is to be sprayed with a systemic herbicide and left to die-off. 2. Dead flora is to be strimmed as hard as possible with a brush cutter or similar. The bulk of the strimmed material is to be removed by raking. 3. A good quality organic topsoil layer may be placed down. Small depressions may be filled (and lightly compacted underfoot). Placed topsoil soil layers must not exceed 100mm depth. 4. No plant machinery operating within the root protection areas to exceed 1 tonne gross weight and must only operate from propriety ground protection boards such as DuraMatt Access Matts (see Appendix C). 5. Turf and other planting to proceed thereafter.

APPENDIX A - SIGNS TO ATTACH TO PROTECTIVE FENCING



Construction and Trees



Why Is Fencing Erected Around Trees?

1. The major cause of damage to trees on construction sites is due to **soil compaction**.
2. Roots use the spaces between soil particles to obtain Oxygen, Water and Nutrients.
3. Heavy plant and machinery compresses (compacts) the soil, squashing out the air spaces and preventing root function.
4. A compacted soil structure will stay compacted.
5. Consequently the tree suffers and will show signs of branch die-back.
6. Symptoms such as die-back may take several years to appear.
7. Soil compaction over roots can be prevented by maintaining a fenced exclusion zone over the tree roots.
8. The exclusion zone distance is calculated using British Standard 5837.
9. Protective Fencing is installed at the calculated distance.
10. Protective Fencing is a condition of planning approval, if it is removed or repositioned the construction firm is in breach of a condition and may be subjected to legal action.

APPENDIX B – Site Inspection pro-forma

**SITE INSPECTION - ARBORICULTURAL METHOD STATEMENT
(Ref: MG/6004/AIA&AMS/REV C/JAN23)**

Site Address : Land at Hollin Cross Lane, Glossop

Name of Arboricultural Inspector:

Date of Inspection:

The purpose of this site inspection is to confirm with requirements within the above referenced Arboricultural Method Statement.

The site is to be visited and the placement of tree protection barrier fencing checked for compliance with specifications within the method statement.

Further works on the site shall not proceed until the tree protective fencing is installed in compliance with the method statement and in submitting this document to the Local Planning Authority the inspector is verifying that the necessary specifications have been met.

Notes (continue on separate attachments as necessary):

Photographs: (attach below):

APPENDIX C – GROUND PROTECTION BOARDS

(to be used for light plant access when undertaking temporary operations within the root protection areas of trees- such as fencing and landscaping)

DuraMatt Single Sided Access Mat - 2400mm x 600mm x 10mm - 17kg

Product Code: DURA-240060017SS



MultiMatts are the market leading provider of temporary access and ground protection solutions. Temporary Access and Ground Protection Mats are now an essential requirement for the construction, civil engineering and groundwork industries, although they're also used extensively within the festival and outdoor event sectors.

Our DuraMatt - Light/Medium Duty Access Mat is manufactured from 100% recycled Low Density Polyethylene (LDPE) and weigh just 17kg. DuraMatt is ideal for both short and long term projects and can be used in a variety of applications.

DuraMatt is capable of taking weights of 15-20 tonnes* depending on the ground conditions, they've also been designed with a connection hole in each corner should the mats need to be connected together.

DuraMatt has a unique diamond pattern "non-slip" surface on one side, the other side has been left smooth for working on hard standing areas and sensitive grass, it also allows contractors to use the mat as a spoil board for construction materials. It's flexible nature allows the mats to follow the contours of the ground to deliver highly effective access over undulating or sloping terrain.

Standard colour option is Grey – Please contact us for other colours or customisation.

Key Applications

- Ground Work Spoil Boards
- Temporary Roadways and Car Parks
- Pedestrian Walkways
- Heritage sites; Eco-Sensitive areas
- Sports and Leisure Events
- Golf Course and Sports Field Maintenance
- Ground Protection
- Emergency Access Routes
- Utilities
- Infrastructure Maintenance

Key Features and Benefits

- 2.4m x 0.6m x 10mm - Weight 17kg
- Maximum Weight loading approx. 15-20 tonnes*
- Unique diamond pattern "non-slip" surface for optimal grip
- Avoids health and safety issues
- Avoids property, heritage and environmental damage and reinstatement
- Avoids vehicles becoming bogged down
- Low transportation and handling costs
- Various connection options for different ground conditions and equipment
- Premium 100% recycled (LD) polyethylene which is 100% recyclable

APPENDIX D – SUMMARY OF CHANGES WITHIN LATEST REVISION**Overview**

Amendments within the proposed site layout have been finalised following consideration of a number of potential layout designs.

Revisions to the proposed layout have allowed the retention of more trees, even with consideration of required external works and drainage requirements, with general improvements to layout design to reduce potential shading and enhance the landscape in the vicinity of the Redcourt building.

A list of the changes are presented in the table below:

Ref. No	Species	Tree value	Changes
6T	Holly	C	This tree is now removed. However this allows increased space to retained trees within group 1G.
7T	Lawson's Cypress	C	This tree is now removed. However this allows increased space to retained trees within group 1G.
8T	Lawson's Cypress	C	This tree is now removed. However this allows increased space to retained trees within group 1G.
20G	Laburnum (within G20)	C	The tree is now identified an individual within the tree survey (20T).
49T	Norway Maple	C	Tree now proposed for monolithing due to fractured branches within the canopy.
76T	Ash	U	Tree now proposed for monolithing due to poor condition.
82T	Ash	C	Borderline 'U' value. Remove tree allow for replanting.
83T	Ash	C	Borderline 'U' value. Remove tree allow for replanting.
97T	Ash	U	Monolith tree.
103T	Ash	U	Monolith tree.
103aT	Elm	U	Fell tree (tree added to the revised tree survey).
106T	Ash	U	Monolith tree.
111G	7x Ash	U	Monolith trees. Was formerly 111T, a single Ash, but altered to include the entire group in this location.
123G	5x Ash	U	New group added to tree survey. Monolith all trees within the group to allow remaining adjacent woodland trees to develop.

END OF DOCUMENT