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Arboricultural Impact Assessment:
Land adjacent to 103 Newcastle Road
South Shields

Prepared for:
Gary Craig Architectural Services Ltd
10 Fulmar walk
Whitburn
Sunderland
SR6 7BW

Report ref: GCA_NewcastleRd_AIA1.1

Report prepared by	Position	Date
Liam Robson MArborA	Arboriculturist	13/05/2020
Report verified by	**Position**	**Date**
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CONTENTS

1.0 EXECUTIVE SUMMARY

1.1 Dendra Consulting Ltd was commissioned to undertake this impact assessment by Gary Craig Architectural Services Ltd. The report was prepared in order to support a planning application for a proposed residential development of land adjacent to 103 Newcastle Road, South Shields.

1.2 The site survey was undertaken on 12th May 2020 by Liam Robson.

1.3 2 trees and 2 group were surveyed. The removal of 1 moderate value group is required for development.

1.4 Impacts are predicted from the following activities:

- Group removal.
- New surfaces within RPA of tree being retained.
- General construction works in proximity to trees being retained.

1.5 Mitigation has been recommended as follows:

- Sensitive hardstanding construction measures.
- The erection of protective fencing.

1.6 Overall the proposals are likely to have a negative impact at a site level. A detailed summary table of the impacts before and after mitigation is provided in section 6.0.

2.0 INTRODUCTION

2.1 Background & Scope

2.1.1 Dendra Consulting Ltd was commissioned to undertake this survey and report by Gary Craig Architectural Services Ltd. The scope of the contract was to undertake an arboricultural impact assessment to support a planning application for the development of land adjacent to 103 Newcastle Road, South Shields. The survey was carried out in line with BS 5837 – Trees in Relation to Design, Demolition and Construction- Recommendations, 2012 (BSI 2012).

2.1.2 The proposals involve development of the land for residential use. 2no. properties are to be constructed.

2.2 Personnel, Timing & weather conditions

2.2.1 The site visit was made on the 12th May 2020 by Liam Robson. The weather was fine and dry.

2.3 Survey methodology

2.3.1 All observations were from ground level. Height was measured, where possible, using a clinometer and is expressed in metres. Crown spread is also expressed in metres. In dense tree cover height and crown spread may have been estimated. Stem Diameter at 1.5 metres was measured using calibrated DBH tape and is expressed in millimetres.

2.3.2 A tree quality assessment is made for each tree or group of trees as recommended in BS 5837. A cascade chart based on the standard is provided as figure 1.

Figure 1 – Chart for tree quality assessment. Adapted from BS 5837.

Category	Criteria		
Category U **Trees unsuitable for retention.** Trees in such a condition that they cannot be realistically retained for longer than 10 years	• Dead, dying or dangerous trees • Trees with serious structural defects • Trees with serious physiological defects		
	1. Mainly arboricultural values	**2. Mainly landscape values**	**3. Mainly cultural & conservation values**
Category A **Tree of high quality** with an estimated remaining life expectancy of at least 40 years.	Trees that are particularly good examples of their species. Particularly of rare or unusual species. Trees forming essential parts of a group	Trees, groups or woodlands of particular visual importance.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value.
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years.	Trees that might be categorised in the higher category but are downgraded because of impaired condition.	Trees present in numbers such that they attract a higher collective rating than they would as individuals.	Trees with material conservation or other cultural value.
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 15cms.	Trees not qualifying in higher categories	Trees present in groups or woodlands that do not possess significant landscape values.	Trees with no material conservation or cultural value

2.4 Root protection

2.4.1 The Root Protection Area (RPA) is represented by an area in m^2 around a tree which acts as a protective zone. In our schedule of trees it is expressed both as the RPA and as the Root Protection Radius (RPR). The RPR is a figure given in metres used to identify the radius of a circle around a tree which serves to act as the RPA. In certain circumstances the shape of the RPA may be altered to suit site specific factors such as the presence of buildings, roads, other trees etc.

3.0 REPORT FINDINGS

3.1 Survey summary

3.1.1 2 trees and 2 groups were surveyed. The full results of the survey are provided in section 8.0. The trees were examined for physiological and structural defects. Remedial works for such defects have been provided where appropriate, and this has been recommended regardless of development. **Please note that some of this work may be superseded by recommendations required for development purposes.** The results of the tree quality assessment are summarised in figure 2 below.

Figure 2 – Summary of tree quality assessment

Category	Tree/Group numbers
High	None
Moderate	T1, T2 and G2
Low	G1
Unsuitable for retention	None

3.2 Limitations

3.2.1 Trees within G2 were situated on neighbouring land and could therefore not be inspected in detail. No recommendations have been made for this group.

3.2.2 The details specified within this report are valid for a period of two years.

4.0 IMPACT ASSESSMENT

4.1 Assessment process

4.1.1 This section of the report identifies and evaluates impacts in the absence of any mitigation. Mitigation is then detailed in section 5.0 of the report. Impacts are categorised into pre-development, development stage and post-development phases.

4.2 Pre-development impacts

4.2.1 The proposals require the removal of G1, an apple orchard providing a moderate value to the site.

4.2.2 The proposed works will require the pruning back of the canopies of trees within G2. The crowns should be pruned back a further 2m away from the proposed dwellings. The trees should also be crown lifted to 4m from ground level. Providing these works are undertaken by a suitably qualified arborist, no significant impacts are predicted from these pruning works.

4.3 Development stage impacts

4.3.1 The trees within G2 are situated behind large walls which border the site boundary. It is predicted that these walls will require significant foundations and as such, the roots of the trees that are present on the site will be limited. Regardless of this, the RPA for the group lie outside of the proposed dwelling footprint, so no sensitive foundation design will be required.

4.3.2 The renewal of the existing hard surfacing may be required within the RPA of T2. Standard construction methods could involve changes in levels and excavation of the soil containing the tree roots. This has the potential to result in significant root damage.

4.3.3 Generic development works on the site, such as operation of machinery, storage of materials, etc, could result in damage to the crowns, stems and

root systems of trees to be retained. This could result in the decline and death of the trees in the years post development.

4.4 Post development impacts

4.4.1 Potential post development tree/resident conflicts such as encroachment, shading, leaf fall, honeydew, etc usually arise from the erection of residential properties close to large trees. Such problems are subjective and depend entirely on different attitudes to trees. Consequently the impacts are difficult to predict with any degree of accuracy. In this instance, the new dwellings will be subject to tree cover, though this is not unusual in the locality. The impacts are predicted to be low to moderate.

5.0 MITIGATION

5.1 Pre development impacts

5.1.1 No new tree plantings are proposed. The impacts will remain unmitigated.

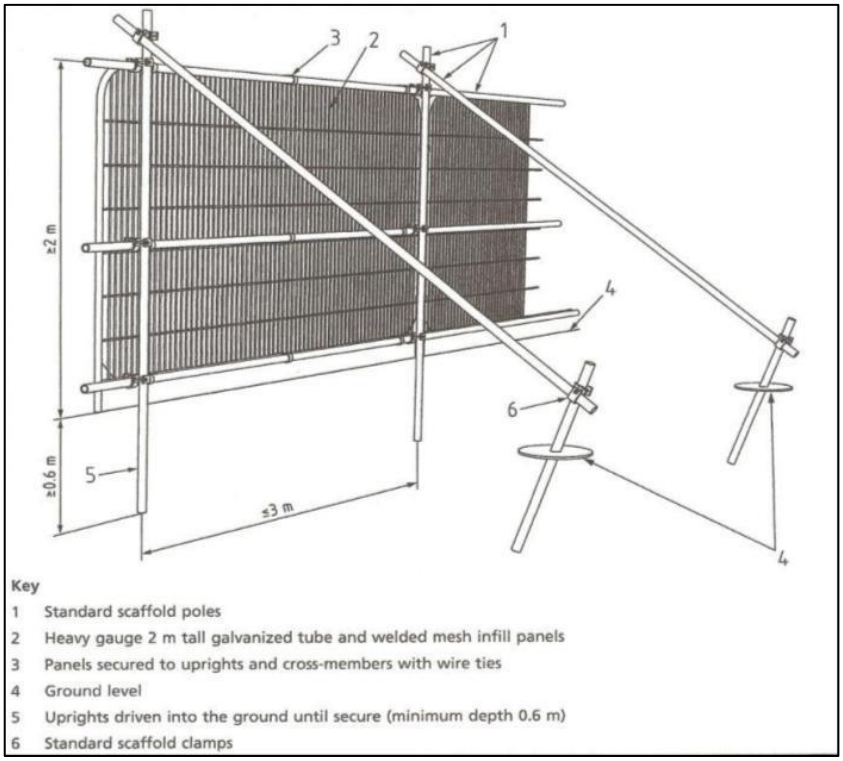
5.2 Development stage impacts

5.2.1 If the renewal of hardstanding is required within the RPA of T2, then these works must be undertaken sensitively. The following methods must be used:

- The existing surfaces will be removed using hand tools only.
- There will be no change in ground levels greater than 50mm.
- Roots smaller than 25mm may be cut back to a side shoot using bypass secateurs of a hand saw. No roots larger than 25mm will be cut.
- The final surface will be porous to allow moisture to the tree roots and allow gases to escape from the soil.

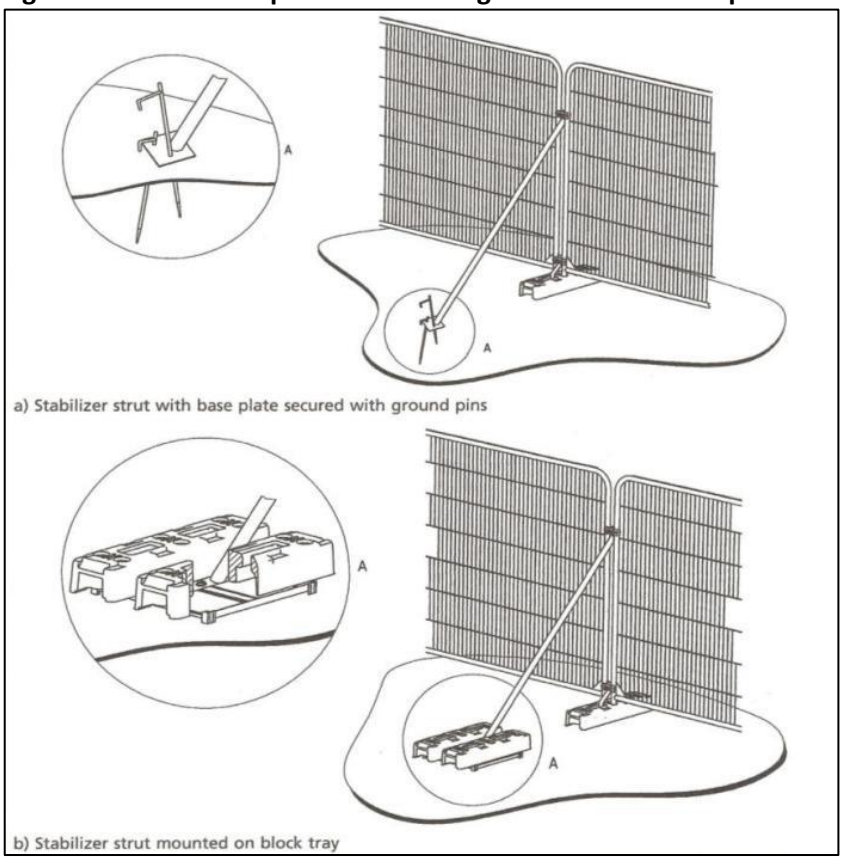
5.2.2 Protective fencing of the type specified in figures 3 or 4 below will be installed as shown on the tree protection plan. The fencing will be erected after all the pre-development tree works have been completed but prior to the start of construction. Signs will be attached to the fencing to state that it is a protected area and that it should not be moved.

Figure 3 – Default protective fencing for trees on development sites.



Key
1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

Figure 4 – Alternative protective fencing for trees on development sites.



[Figures 3 & 4 reproduced with the permission of the British Standards Institute].

6.0 SUMMARY OF IMPACTS AND MITIGATION

6.1 The impacts and mitigation criteria shown in figure 5 below have been used to assess the impacts of the proposed development, which is summarised in figure 6.

Figure 5 – Impact assessment parameters and predictions

Assessment parameters	Measure of impacts
Nature and Magnitude of impact	Major negative Negative Minor negative Neutral / Negligible Minor positive Positive Major Positive
Extent of impact	Site level Street level Local level District level County level National level
Probability that impact will occur	Certain / Highly likely Likely Possible Extremely unlikely

Figure 6 – Site impacts before and after mitigation.

Proposed activity	Predicted impact without mitigation	Assessment of impact without mitigation	Proposed Mitigation	Assessment of impact with mitigation
Tree removal	Loss of moderate value group	Negative Site level Certain	None	Negative Site level Certain
Renewal of hard surfaces within RPA of T2	Damage to roots of moderate value tree	Negative Site level Highly likely	Sensitive construction methods	Neutral Highly likely
General construction works in proximity to trees being retained	Damage to stems, branches and roots of tree being retained. Possible decline of trees	Negative Site level Possible	Protective fencing to be erected	Neutral Highly likely

7.0 REFERENCES

BSI (2012) *BS5837:2012 Trees in relation to design, demolition and construction – Recommendations.* British Standards Institution. London.

8.0 SCHEDULE OF TREES

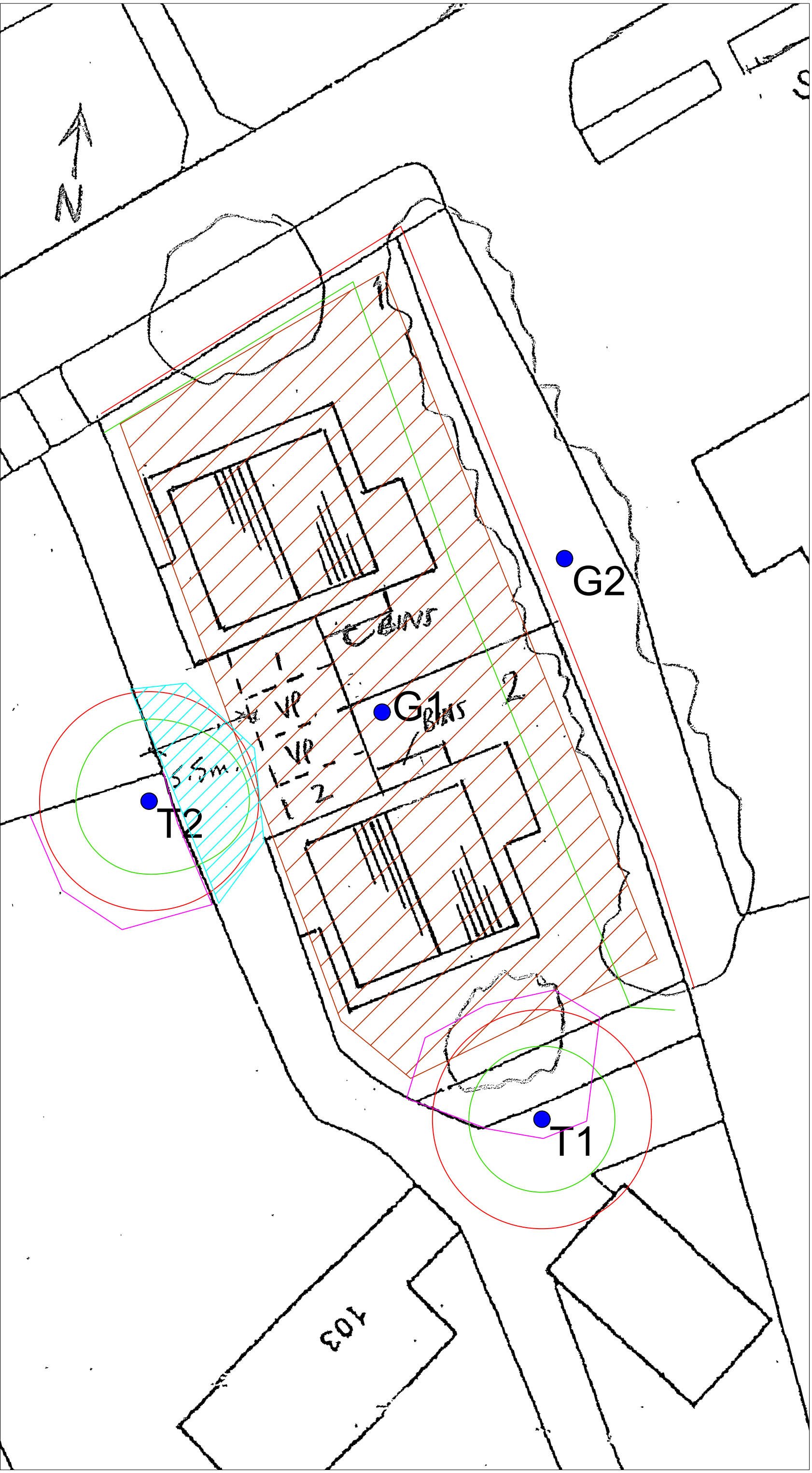
KEY

NR: Not recorded
Age: Y = Young, SM = Semi mature, EM = Early mature, M = Mature, OM = Over mature
Estimated Remaining Contribution: Expressed in years
Recommendations for health and safety reasons are not highlighted. Recommendations for development purposes are highlighted in RED

No.	Species	Height (m)	Stem diam. (mm)	Crown Spread (m)				Height of main canopy (m)	Height of first significant branch (m)	Direction of first significant branch	Age class	Estimated remaining contribution	Comments	Recommendations	Tree quality Assessment	RPA (m^2)	RPR (m)
				N	E	S	W										
T1	Sycamore	16.0	500	4.0	4.0	4.0	4.0	2.0	NR	NR	M	40+	No major defects	No action required at the present time	B1	113	6.0
T2	Sycamore	12.0	500	4.5	5.5	4.0	4.0	2.0	NR	NR	M	40+	No major defects	No action required at the present time	B1	113	6.0
G1	Malus	3.0	100	NR	NR	NR	NR	0.1	NR	NR	M	40+	Orchard trees	Fell for development	B2	5	1.2

No.	Species	Height (m)	Stem diam. (mm)	Crown Spread (m) N	E	S	W	Height of main canopy (m)	Height of first significant branch (m)	Direction of first significant branch	Age class	Estimated remaining contribution	Comments	Recommendations	Tree quality Assessment	RPA (m^2)	RPR (m)
G2	Mixed	16.0	500	NR	NR	NR	NR	3.0	NR	NR	M	40+	Not identified as individuals in a topographical survey. Located in neighbouring property. Not inspected in detail. Trees situated behind large retaining wall	No comments	B2	113	6.0

REPORT END



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Appendix 1

Tree Protection Plan

KEY

Tree retention category

Category A
Category B
Category C
Category U

Tree Constraints

Crown Spread

Root Protection Area

Tree removal

Group to be removed

Tree Protection

Protective fencing

Scale: 1:200 @ A3

The original of this plan was produced in colour - a monochrome copy should not be relied upon

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