Tree Survey and Arboricultural Impact Assessment

Land off New Smithy Avenue, Thurlstone

Report reference: AR-4006-01.02
September 2019
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Report Title:	Arboricultural Impact Assessment Land off New Smithy Avenue, Thurlstone
Report Reference:	AR-4006-01.02
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Approved for issue	Victoria Black FdSc Arb Principal Arboricultural Consultant
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Summary

This survey assessed nine individual trees and two groups of trees. Eight of the trees surveyed are situated in adjacent private and, resulting in their inspection being limited. One tree requires annual monitoring due to a small section of included bark at its union.

Introduction

Purpose of the Report

1. This report has been commissioned to provide professional independent, detailed arboricultural advice on all relevant trees present at Land south of New Smithy Avenue, Thurlstone. The Arboricultural Impact Assessment aims to offer professional advice and necessary recommendations with regards to proposed development design, evaluating the direct and indirect effect it will have on the existing tree cover.

2. This report replaces an earlier report (AR-4006-01.01) dated 22.09.19 due to scheme layout revisions. An earlier preliminary tree survey and arboricultural impact report by Brooks Ecological Limited was carried out, dated January 2017 (R-2736-02). The scheme proposals have been used as a basis for this revised report are:

    - Proposed Site Layout Thurlestone 21 Unit Drawing No: S100.

3. The report has been undertaken in accordance with BS 5837:2012 'Trees in relation to construction – Recommendations'.

4. A topographical plan has been supplied by the client. A proposed Site layout was provided by the client (dwg. no. Proposed Site Layout Thurlestone 21 Unit Drawing No: S100

Legal implications

5. Due to the large potential penalties for illegally carrying out work to protected trees, it is recommended that a check is carried out prior to any works being undertaken to ensure the trees on site are not protected by a Tree Preservation Order or are within a Conservation Area. A search for TPO's or Conservation Areas has not been undertaken as part of this report.

6. Every tree owner has a general duty of care to ensure their tree(s) does not pose an unacceptable risk to other people on or adjacent to their land. The landowner will only be liable for injury or damage caused by trees if they are found to be negligent.

7. There is no legal obligation for a tree owner to cut back growth from a neighbouring property. However, under Common law of tort of nuisance, an affected neighbour has the right to cut back roots or branches that encroach onto a neighbouring property back to the boundary of the land owned by the person abating the nuisance without the neighbour's consent (with the exception of TPO's or CA's). The person abating the nuisance has a duty to exercise reasonable care in carrying out work as a failure to do so may lead to liability in negligence (for example where removal of roots makes a tree unstable).

Site Visit

Site Description

8. Land Use –The land is currently enclosed unused pasture in a rectangular-shaped field. The site is located within the small village of Thurlstone. To the north, east and south of the site are residential properties with associated garden space. To the west of the site lies a large pasture with a large detached property.

9. Topography - The site is gently sloping to the south-east within a small valley landscape. Directly to the south of the site side the land is at a lower level and the stone wall boundary along the south side of the Site may be part retaining wall.

10. Treescape - The area has poor tree cover, however the opposite valley side includes more trees.

11. Visual amenity - The trees on this site have a low impact on the local treescape, however the trees surveyed are likely to have visual amenity when viewed across the small valley from the opposite side.

12. Species diversity – Species surveyed on site include: sycamore, hawthorn, goat willow, holly and ash. Neighbouring trees include eucalyptus, deodar cedar and small fruit trees.

Survey Conditions

13. The survey was carried out on 2nd April 2019 in cold, overcast conditions.

Limitations

14. The boundary features and private property limited the survey and estimates of data were made where necessary and noted in the schedules below. All findings and recommendations are based on visual observations conducted from ground level during the site visit only. No other diagnostic procedures were used to establish any extent of internal decay nor was a climbing inspection undertaken. Four off-Site trees (T8, T9, T10 and T11) have estimated positions on the plans included in this report.

15. All measurements were obtained with the use of a clinometer and an electronic distometer.

Tree survey data

The schedule below contains the tree data obtained from the Site survey.

Ref	Species	Life stage	Ht (m)	Can Ht (m)	Lowest branch	Stem diam (mm)	Canopy spread (m)	Physio logical	Structural condition	Recommendations	Life exp. (yrs)	Ret cat
G1	Goat willow group	M	14	0.5	2m+	160 175	N 1-3# E 3# S 1-3# W 3#	Fair	Poor. Approx. 10 trees beside western boundary. Closely-spaced with some broken branches.	None at present.	10-20	C 3
T2	Sycamore	EM	16	3	2m+	345	N 2 E 5# S 4 W 4#	Fair	Fair. Twinned stem at 1.8m. Growing un stone rubble Minor dead wood evident. Crown lifted W side with non-calloused wounds.	None at present.	20	C 2
G3	Hawthorn	Y	2.5-3	GL	<0.2m	<100	N 1.5# E 1.5# S 1.5# W 1.5#	Fair	Fair. Double planted row of hawthorns - hedge-like though now unmanaged.	None at present.	20+	C 1
T4	Sycamore	SM	12	2.5	Not measured.	300 est	N 4.5 E 3 S 4# W 4	Fair	Fair. Outside south Site boundary, overhangs Site. Stems fork tightly though base of stem is not visible below stone wall. Root protection area (RPA) probably affected by topography.	Monitor fork union.	10-20	C 2
T5	Ash	SM	8	2	2m	100# 150# 130#	N 4.5 E 4.5 S 4.5# W 5	Fair	Fair. Outside south Site boundary. The base is not visible below the stone wall and may be one tree or 3 separate trees. Overhangs Site up to 3m.RPA probably affected by topography.	None at present. Monitor for ash dieback disease.	10-20+	C 1

Ref	Species	Life stage	Ht (m)	Can Ht (m)	Lowest branch	Stem diam (mm)	Canopy spread (m)	Physio logical	Structural condition	Recommendations	Life exp. (yrs)	Ret cat
T6	Sycamore	SM	7	2	Not measured	100#	N 2 E 2.5 S 2# W 3#	Fair	Fair. Outside south Site boundary. 5 stems between stone wall boundary and a large trailer which branches are leaning onto and rubbing. Overhangs Site by approx. 1.5m. RPA probably affected by topography.	None at present.	10-20	C 1
T7	Ash	M	9.5	2	2m#	100 x7#	N 3.5# E 4# S 3.5 W 3.5#	Fair	Fair. Outside north Site boundary. Multi-stem. Overhangs Site by 0.5m approx, Slight bias to E.	None at present.	10-20	C 2
T8	Holly	M	5	1.8	2m S	200#	N 3# E 3# S 3# W 3#	Good	Fair. Outside north boundary overhangs Site by 1m approx. Ivy on stem Pruned to shape.	None at present.	10-20+	C 1
T9	Eucalyptus	M	7.5	1	1m W	150 x4	N 2.5 E 2# S 1 W 1.5	Fair	Fair. Outside east boundary. 4 stems outwards from bole. Pruned back over Site with a 1m approx. overhang.	None at present.	10-20+	C 1
T10	Deodar cedar	M	8	<1	E	175#	N 2.5 E 2.5# S 2.5 W 2.5	Good	Good-fair#. Outside east boundary. Typical conical form.	None at present.	10-20+	B 1
T11	Himalayan birch	EM	4.5	<1m	Not measured	75 x3#	N 2# E 2# S 2# W 2#	Fair.	Fair. Outside east boundary. Crown topped at 4-4.5m.	None at present.	10-20+	C

Findings

Tree descriptions and recommendations

16. The tree survey revealed a total of nine individual trees and two groups of trees.

17. All trees and tree groups surveyed were identified as retention category 'C'(low quality) with the exception of T10, assessed as retention category 'B' (moderate quality). No retention category 'A' (high quality) or 'U' (not viable for more than ten years) trees identified. Please refer to Appendix 2 for retention category and definition criteria.

18. The root protection areas (RPA's) of off-Site trees to be south, T4, T5 and T6, are likely to be influenced by the difference in ground level between the lower rooting level and the higher ground level of the Site. The difference in height has not been identified on the topographic plan, however it is unlikely that roots from these trees extend up into the Site area.

19. It has been recommended that neighbouring tree T4 is monitored annually, if possible, to assess if its condition is still acceptable. T4 has a small section of included bark at its union.

Implications for potential development

20. The proposed development consists of a mixture of 21 residential plots with associated access road from the existing New Smithy Avenue access point, garages and private gardens. Ground level changes are proposed across the Site.

Impact Schedule

21. The following schedule identifies the individual tree and its retention category with the main feature(s) of the proposed works likely to cause an impact. The tree references are shown on the tree constraints plan and the tree protection plan. Any mitigation measures are noted.

Tree ref.	Species	Retention category	Proposal feature	Impact	Mitigation
G1	Goat willow group	C	Plot 10 Possible boundary feature	Canopy and RPA incursions not expected.	Tree protection barrier to BS5837:2012. No ground level changes Arboricultural supervision required. Some very minor root pruning may be required. In order to minimise root damage to these trees, excavation must be kept to a minimum. A fence designs requiring intermittent posts will be acceptable and the post holes must not be excavated by mechanical means but may be either dug by hand (with any roots found cleanly severed) or the posts may be driven into the ground. Care to be taken when removing the grass.
T2	Sycamore	C	Plot 10 Possible boundary feature	Canopy and RPA incursions not expected.	Tree protection barrier to BS5837:2012. No ground level changes Arboricultural supervision required. Some very minor root pruning may be required.

Tree ref.	Species	Retention category	Proposal feature	Impact	Mitigation
					In order to minimise root damage to these trees, excavation must be kept to a minimum. A fence designs requiring intermittent posts will be acceptable and the post holes must not be excavated by mechanical means but may be either dug by hand (with any roots found cleanly severed) or the posts may be driven into the ground. Care to be taken when removing the grass.
G3	Hawthorn	C	Plots 10 and 11 Possible boundary feature	Canopy and RPA incursions not expected.	Tree protection barrier to BS5837:2012. No ground level changes Arboricultural supervision required. Some very minor root pruning may be required. In order to minimise root damage to these trees, excavation must be kept to a minimum. A fence designs requiring intermittent posts will be acceptable and the post holes must not be excavated by mechanical means but may be either dug by hand (with any roots found cleanly

Tree ref.	Species	Retention category	Proposal feature	Impact	Mitigation
					severed) or the posts may be driven into the ground. Care to be taken when removing the grass.
T4	Sycamore	C	Plot 11 Possible boundary feature	Off-Site tree. Canopy and RPA incursions not expected.	Tree protection barrier to BS5837:2012. No ground level changes Arboricultural supervision required. Some very minor root pruning may be required. In order to minimise root damage to these trees, excavation must be kept to a minimum. A fence designs requiring intermittent posts will be acceptable and the post holes must not be excavated by mechanical means but may be either dug by hand (with any roots found cleanly severed) or the posts may be driven into the ground. Care to be taken when removing the grass.

Tree ref.	Species	Retention category	Proposal feature	Impact	Mitigation
T5	Ash	C	Plots 11 & 12 Possible boundary feature	Off-Site tree. Canopy and RPA incursions not expected.	Tree protection barrier to BS5837:2012. No ground level changes Arboricultural supervision required. Some very minor root pruning may be required. In order to minimise root damage to these trees, excavation must be kept to a minimum. A fence designs requiring intermittent posts will be acceptable and the post holes must not be excavated by mechanical means but may be either dug by hand (with any roots found cleanly severed) or the posts may be driven into the ground. Care to be taken when removing the grass.
T6	Sycamore	C	Plot 12 Possible boundary feature	Off-Site tree. Canopy and RPA incursions not expected.	Tree protection barrier to BS5837:2012. No ground level changes Arboricultural supervision required. Some very minor root pruning may be required.

Tree ref.	Species	Retention category	Proposal feature	Impact	Mitigation
					In order to minimise root damage to these trees, excavation must be kept to a minimum. A fence designs requiring intermittent posts will be acceptable and the post holes must not be excavated by mechanical means but may be either dug by hand (with any roots found cleanly severed) or the posts may be driven into the ground. Care to be taken when removing the grass.
T7	Ash	C	Plots 6 and 7 garages Possible boundary feature	Off-Site tree. Canopy and RPA incursions not expected.	Tree protection barrier to BS5837:2012. No ground level changes Arboricultural supervision required. Some very minor root pruning may be required. In order to minimise root damage to these trees, excavation must be kept to a minimum. A fence designs requiring intermittent posts will be acceptable and the post holes must not be excavated by mechanical means but may be either dug by hand (with any roots found cleanly

Tree ref.	Species	Retention category	Proposal feature	Impact	Mitigation
					severed) or the posts may be driven into the ground. Care to be taken when removing the grass.
T8	Holly	C	Plot 9 Possible boundary feature	Off-Site tree. Canopy and RPA incursions not expected.	Tree protection barrier to BS5837:2012. No ground level changes Arboricultural supervision required. Some very minor root pruning may be required. In order to minimise root damage to these trees, excavation must be kept to a minimum. A fence designs requiring intermittent posts will be acceptable and the post holes must not be excavated by mechanical means but may be either dug by hand (with any roots found cleanly severed) or the posts may be driven into the ground. Care to be taken when removing the grass.

Tree ref.	Species	Retention category	Proposal feature	Impact	Mitigation
T9	Eucalyptus	C	Plot 21 Possible boundary feature	Off-Site tree. Canopy and RPA incursions not expected.	Tree protection barrier to BS5837:2012. No ground level changes Arboricultural supervision required. Some very minor root pruning may be required. In order to minimise root damage to these trees, excavation must be kept to a minimum. A fence designs requiring intermittent posts will be acceptable and the post holes must not be excavated by mechanical means but may be either dug by hand (with any roots found cleanly severed) or the posts may be driven into the ground. Care to be taken when removing the grass.
T10	Deodar cedar	C	Plot 21 Possible boundary feature	Off-Site tree. Canopy and RPA incursions not expected.	Tree protection barrier to BS5837:2012. No ground level changes Arboricultural supervision required. Some very minor root pruning may be required.

Tree ref.	Species	Retention category	Proposal feature	Impact	Mitigation
					In order to minimise root damage to these trees, excavation must be kept to a minimum. A fence designs requiring intermittent posts will be acceptable and the post holes must not be excavated by mechanical means but may be either dug by hand (with any roots found cleanly severed) or the posts may be driven into the ground. Care to be taken when removing the grass.
T11	Himalayan birch	C	Plot 20 (east side) garden and access road. Possible boundary feature	Off-Site tree. Canopy and RPA incursions not expected.	Tree protection barrier to BS5837:2012. No ground level changes Arboricultural supervision required. Some very minor root pruning may be required. In order to minimise root damage to these trees, excavation must be kept to a minimum. A fence designs requiring intermittent posts will be acceptable and the post holes must not be excavated by mechanical means but may be either dug by hand (with any roots found cleanly

Tree ref.	Species	Retention category	Proposal feature	Impact	Mitigation
					severed) or the posts may be driven into the ground. Care to be taken when removing the grass.

Proposed tree removal to facilitate development

22. No trees will require removal to facilitate the proposed development.

Tree works

23. Prior to any development commencing on site the first operation will be to carry out the necessary tree works. All tree works should conform to BS 3998: 2010 – Recommendations for tree works. All tree works should be formally approved from the Local Planning Authority before beginning.

Protection of trees to be retained/off-Site trees

Protection

24. It is recommended that temporary protective barriers to BS5837:2012, Figure 1, are erected to protect the canopies and root protection areas of neighbouring trees extending into the Site, as shown in the Tree Protection Plan. No other work should commence until this happens – this includes movement of materials, supplies or machinery onto the site and any excavations or soil stripping. Once the barriers are properly erected in their correct positions, they should not be removed or altered in any way without prior approval from the Local Planning Authority.

25. The tree barriers are intended to form construction exclusion zones and no pedestrians, vehicles, materials or equipment

should be allowed within these fenced areas at any time. All-weather notices should be attached to the barrier with words such as: "Construction exclusion zone – no access".

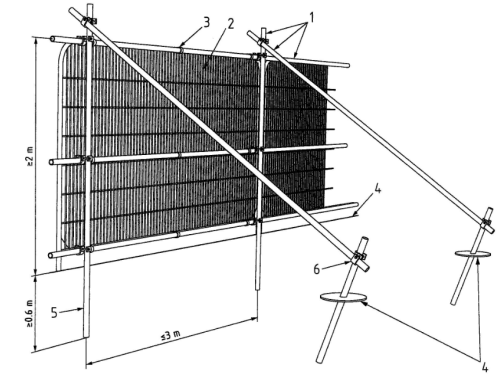


Figure 1

Boundary features

26. Proposed boundary fencing is proposed within the RPA's of some of the retained trees on site. In order to minimise root damage to these trees, excavation must be kept to a minimum. A fence designs requiring intermittent posts will be acceptable and the post holes must not be excavated by mechanical means but may be either dug by hand (with any roots found cleanly severed) or the posts may be driven into the ground.

27. All works within RPA's should supervised by Brooks Ecological.

Demolition

28. In this case, there is no demolition to take place on this site.

Drainage and Utilities

29. It is our understanding that any drainage and utilities will not be installed within the root protection area of any tree on this site.

Appendix 1: Photographs

Figure 1

Looking north-west to tree group G1, with closely-spaced stems and canopies beside the western boundary fence,

Figure 2

Tree group G2 goat willows. (Neighbouring small conifer to the right).

Figure 3

Trees in the south-west area of the Site boundary. Off-Site, larger field trees are in the background.

Figure 4

Trees along the western and southern sides as seen looking west from the eastern side of the Site. A drop in ground level is evident to the left (south) side.

Appendix 2: Explanation of Tree Descriptions

Measurements

Tree height is calculated in metres from ground level to the highest point of the tree.

Stem diameter is measured and rounded down to the nearest ten millimetres at 1.5m above ground level using a specialist measuring tape. Where a tree divides into multiple stems each stem will be measured.

Canopy spread is measured from the centre of the stem base to the tips of the branches in all four cardinal points using an electronic distometer.

Crown clearance is estimated in metres and is an indication of the lowest significant live branches of the crown.

Age Class is divided into young (Y), semi-mature (SM), early-mature (EM), mature (M), over mature (OM), and veteran (V).

Physiological condition is an assessment of the health and vigour of the tree.

Structural condition is an indication of the structural integrity of the tree. This is given as good, average or poor.

The observations column will include a brief description of each tree and provide further information as relevant.

The remaining contribution is a rough estimate of the number of years a tree is expected to survive in a structurally sound condition.

Retention Categories

Category ratings are allocated based on the current quality and value of a tree in its current surroundings assuming the recommendations of this report are carried out. No consideration is given to any specific development proposal when allocating category ratings.

Category A trees are those which are of high quality and value, are in good structural and physiological condition and are expected to contribute for at least another 40 years.

Category B trees are those which would be considered as category A trees but which are of lower quality and value, poorer structural condition, and which are expected to contribute for at least 20 years.

Category C trees are those which are of low quality and value, are in poor condition, and are expected to contribute for at least 10 years.

Category U trees are those which are expected to contribute for less than 10 years due to serious defects. As is common in risk management, where there is doubt, the precautionary principle may be applied.

Sub-categories

Sub- categories of 1, 2 or 3 are included in the tree data tables and are defined as follows:

Sub-category 1 trees are those with 'mainly arboricultural value'

Sub-category 2 trees are those with 'mainly landscape value'

Sub-category 3 trees are those with 'mainly cultural or conservation value'

Appendix 3: General Recommendations

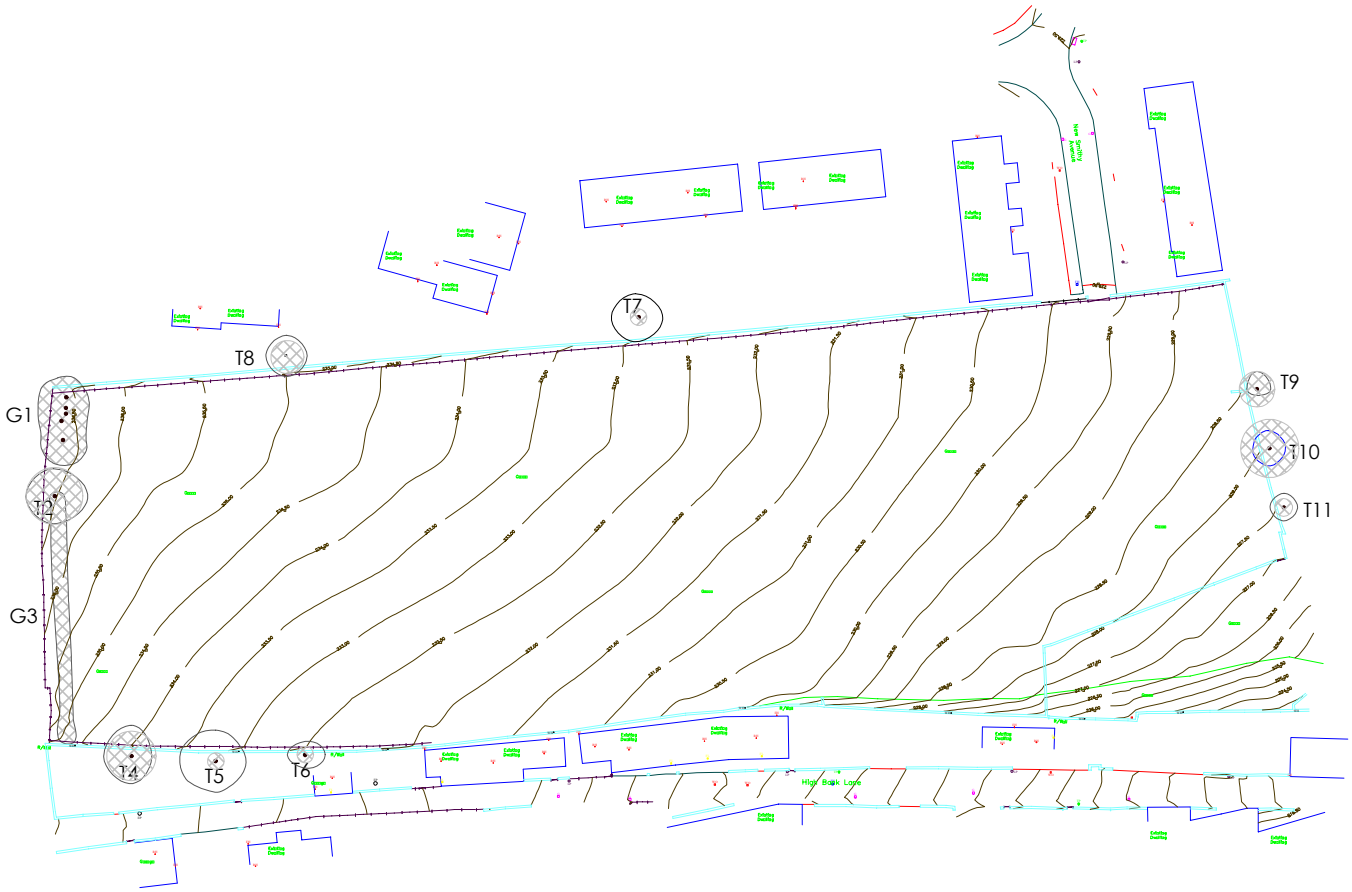
All work must be to BS 3998: 2010 - '*Recommendations for tree work*'.

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 in this report.

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.

It is advisable to have trees inspected by an arboricultural consultant regularly.

Appendix 4: Tree Constraints Plan



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Indicative

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DR-4006-01 TREE CONSTRAINTS PLAN

Site: Land adjacent New Smithy Avenue, Thurlstone.

Paper Size: A2	**Scale: 1:500**

BS 5837: 2012 Retention Categories

	CATEGORY A
	CATEGORY B
	CATEGORY C
	CATEGORY U

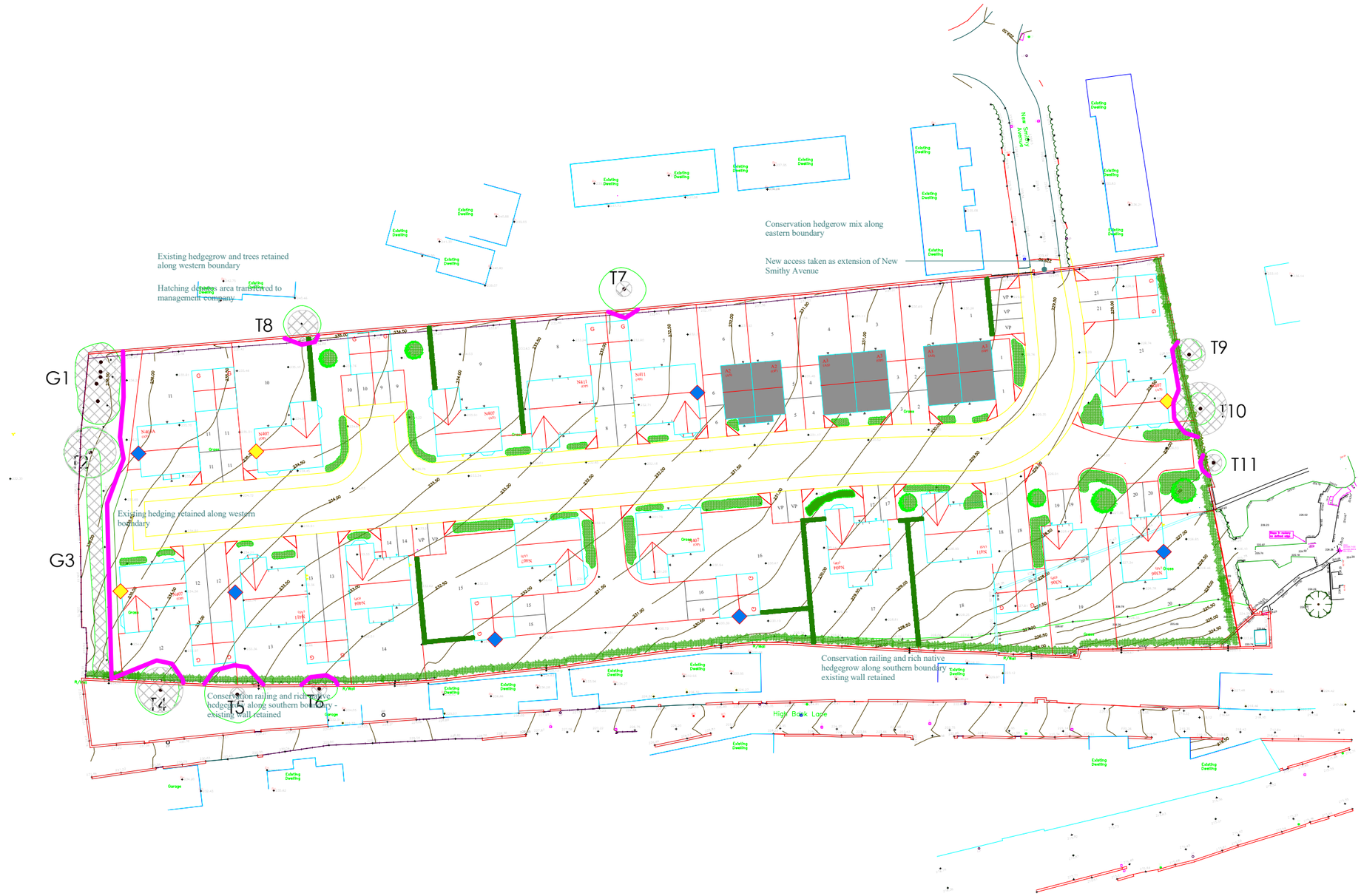
	ROOT PROTECTION AREA
•	TREE STEM

Please note:
The plan is for guidance only
and should not be scaled from.

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

50m

Appendix 5: Tree Protection Plan



Email: vb@brooks-ecological.co.uk
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DR-4006-02.01 TREE PROTECTION PLAN

Site: Land adjacent New Smithy Avenue, Thurlstone.

Paper Size: A2	**Scale: 1:500**

	Tree to be retained
	Tree to be removed
	Protective fencing in line with BS 5837:2012

	ROOT PROTECTION AREA
•	TREE STEM

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