Arboricultural
Impact Assessment

69 Norfolk Street
Glossop
Derbyshire
SK13 7RA

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SUMMARY

Ten individual trees were recorded. In accordance with *BS5837:2012* five trees were recorded as retention category 'B', and four trees were recorded as retention category 'C'.

The trees were generally found to be in good to fair condition, however, one tree has been recommended for removal as it has decay fungus *Kretzschmaria deusta* at its base. Therefore, this tree has a limited long term value and has been classed as retention category 'U' (unsuitable for retention).

No trees have been recommended for removal to facilitate the proposed development.

Should development take place, any trees that are retained should be protected to *British Standard BS5837:2012 Trees in relation to design, demolition and construction* to ensure that they remain in a healthy condition during and post development. The *Tree Protection Plan* to the rear of this report highlights the recommended tree protection measures.

Any arboricultural work undertaken should be done so by a competent arborist in line with *British Standard BS3998:2010 Tree Work*.

Contents

1. Introduction

1.1. Terms of reference

1.1.1. This report has been commissioned to provide independent, detailed advice from a qualified arboriculturist, to conform to *British Standard 5837: 2012 Trees in relation to design, demolition and construction* in the context of potential development.

1.1.2. For this purpose I have been supplied with a location drawing, which is the basis for which the arboricultural constraints plan has been prepared. Tree positions have been plotted using this drawing and on-site measurements. Every effort has been made to ensure that the tree positions are as accurate as possible.

1.2. Scope of this report

1.2.1. The scope of this report is to identify arboricultural constraints by producing a detailed plan showing tree location, root protection areas and retention category of each tree.

1.2.2. In addition, this report provides an arboricultural impact assessment that evaluates the direct and indirect effects of the proposed development, and where necessary makes recommendations for mitigation measures.

1.3. Survey details

1.3.1. A ground level inspection was undertaken by Robert Godwin on 25th June 2014, recording trees both within and immediately adjacent to the site with a stem diameter above 75mm.

1.3.2. Measurements were made using a compass, diameter tape, clinometer and laser distometer. Dimensions are estimated where trees are inaccessible or located off-site.

1.4. Site description

1.4.1. The site is comprised of the rear garden of 69 Norfolk Street, Glossop and the land beyond the rear garden boundary. Beyond the rear boundary there is a grass playing field surrounded by trees. The rear garden is also bordered on either side by private residential gardens.

2. Arboricultural Constraints

2.1. Tree condition

2.1.1 Ten individual trees were recorded. In accordance with *BS5837:2012* five trees were recorded as retention category 'B', and four trees were recorded as retention category 'C'.

2.1.2 The trees were generally found to be in good to fair condition, however, one tree has been recommended for removal as it has decay fungus *Kretzschmaria deusta* at its base. Therefore, this tree has a limited long term value and has been classed as retention category 'U' (unsuitable for retention).

2.1.3 Please see *Appendix 1* for details on each individual tree, and *Appendix 2* for an explanation of retention category criteria. Tree locations can be seen on the *Tree Constraints Plan* at the rear of this report.

2.2 Root Protection Areas

2.2.1 During any development phase, in order to ensure that retained trees are properly protected, the tree rooting zones must be considered. For the purpose of development the rooting zone of the tree is known as the Root Protection Area or RPA. The RPA of each tree or group is marked on the *Tree Constraints Plan* and represents the theoretical tree rooting zone.

2.3 Tree protection status

2.3.1 Due to the large potential penalties for illegally carrying out work to protected trees, it is recommend that a check is carried out with the local planning authority prior to any works being undertaken. The check should establish whether the trees are covered by any statutory protection such as a Tree Preservation Order or Conservation Area.

2.3.2 **No work should be done to any trees until their protective status has been confirmed and work granted**.

3. Arboricultural Impact Assessment

3.1. Proposed development

3.1.1 The proposed development will consist of constructing new rear extension with decking, and a detached garden store towards the rear of the garden.

3.1.2 A proposed layout drawing has been supplied by the client, and is the basis for which this impact assessment has been prepared. Please see the *Tree Protection Plan* to the rear of this report for the proposed layout details.

3.2. Impact on existing trees

3.2.1 No trees shall require removal to facilitate the proposed development. They shall be protected from construction activity by a protective fencing barrier (see *Section 4.1.1*), put in place prior to any construction activity. The barrier will ensure that the trees remain in a healthy condition during and after development. Two of the retained trees are located off-site and on higher ground (**T9** and **T10**), as such; these trees are provided protection as they are already located beyond an existing boundary fence.

3.2.2 The pruning and crown lifting of trees **T2** and **T3** is recommended to prevent any conflicts with future usage. The work required for each tree is detailed at *Appendix 1*. This work has been devised to minimise any negative impacts the proposed development may have on the trees, whilst still maintaining all the positive aspects the trees bring to the area. The designated works have been devised sympathetically to leave the trees in a healthy sustainable condition.

3.2.3 A percentage of RPA from **T2** lies within the foundations of the proposed garden store. The total area of RPA for **T2** has been calculated at 95.7m^2. A section of this RPA would potentially need to be disturbed to accommodate the proposed building foundations; this area has been calculated at 9.4m^2, which equates to an area of approximately 9.8% of the total RPA of **T2**.

3.2.4 Similarly, a section of RPA from tree **T3** lies within the footprint of the proposed side extension. The total area of RPA for **T3** has been calculated at 52.3m^2. Again, a section of this RPA would potentially need to be disturbed to accommodate the proposed garden store foundations; this area has been calculated at 4.7m^2, which equates to an area of approximately 9% of the total RPA of **T3**.

3.2.5 On this basis the foundation construction for the proposed garden store should result in minimal root disturbance to the RPAs of **T2** and T3 during construction, and should not cause the trees any long-term adverse effects.

3.2.6 No soil samples were taken during the site visit. It is recommended that soil assessment it undertaken by a competent person to determine whether the soil is shrinkable, and that foundation design is undertaken in line with detailed guidance given in NHBC publication *Building near trees, Chapter 4.2*.

4. Tree Protection Scheme

4.1. Protection of retained trees

4.1.1. The first operation will be the necessary arboricultural works as described in *Appendix 1* of this report. All tree works should be carried out in accordance with *BS 3998: 2010 Recommendations for tree work*, and after permission has been granted to do so by the local planning authority.

4.1.2. The erection of a protective barrier, in accordance with *BS 5837: 2012*, will be required prior to the start of construction activity. The barrier should be positioned as detailed on the *Tree Protection Plan* to create a Construction Exclusion Zone. Please see *Appendix 3* for barrier construction detail.

4.1.3. Once the fencing is erected, waterproof signs with the sentence '**Protected tree zone, no storage or operations within this area**' should be placed at 3m intervals to ensure that all construction personnel are aware of the restrictions that apply to the fenced-off area. Routes for pedestrian and site traffic will be located outside, and diverted away from the RPA of any retained tree.

4.1.4. In this instance, no services are planned within the RPA of any tree. All services are already connected into the property and no movement of services within the RPA are necessary or proposed.

4.1.5. Any site compound, which typically includes the storage of materials, should be located away from trees and outside any RPA. This area is remote from the retained trees. Care should also be taken to prevent soil contamination with chemical spillages, including oils.

4.2. Post construction phase

4.2.1. When the development phase is complete and the site machinery has been removed, the local planning authority should be invited to inspect the site to give approval for the removal of the tree protection measures. When this approval has been given the protective barriers may be removed from site.

4.2.2. No heavy machinery should be brought into the vicinity of retained trees. During soft landscaping, herbicides should be appropriate for the purpose and should not be used in such a way as to damage any retained trees or vegetation.

Client: Mr J Allen
Project No: AIA.11971
Revision: 01

Date Issued: 3rd July 2014
Status: FINAL

Signed on behalf of Godwin's Arboricultural:

R Godwin

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Appendix 1. Tree Schedule

Ref	Age / Common Name / Botanical Name	Height (m) / Crown Hgt (m) / FSB (D)	Stems at 1.5m / Stem (cmø)	Branch Spread N W E S	Observations	Vitality / Life Exp	Preliminary Recommendations	RPA Radius (m) / RPA Area (m^2)	Retention Category
T 1	Semi-mature Hawthorn *Crataegus monogyna*	5.0 1.0 1.0 N	1 12	2.5 1.5 4.0 2.0	Asymmetrical crown. No major visible defects observed.	Good 20-40	No action required.	1.4 6.5	C
T 2	Early-mature Beech *Fagus sylvatica*	16.0 3.0 4.0 S	1 46	4.0 4.0 5.0 5.0	Asymmetrical crown. Occasional pruning wounds.	Good 40+	Crown lift to provide 2m clearance from proposed development.	5.5 95.7	B
T 3	Semi-mature Common Lime *Tilia x europaea*	11.0 1.5 2.0 E	1 34	4.0 3.0 5.5 2.5	Asymmetrical crown. Occasional pruning wounds. Limited inspection - epicormic growth at base.	Fair 20-40	Crown lift to provide 2m clearance from proposed development.	4.1 52.3	C
T 4	Early-mature Common Lime *Tilia x europaea*	15.0 1.0 3.0 W	1 35	2.0 5.0 3.0 4.0	Asymmetrical crown. Limited inspection - epicormic growth at base.	Good 40+	No action required.	4.2 55.4	B
T 5	Early-mature Common Lime *Tilia x europaea*	15.0 1.0 3.0 W	1 35	4.0 5.0 3.0 2.0	Asymmetrical crown. Limited inspection - epicormic growth at base.	Good 40+	No action required.	4.2 55.4	B
T 6	Mature Beech *Fagus sylvatica*	18.0 5.0 6.0 W	1 72	7.0 7.0 5.0 6.0	Asymmetrical crown. Occasional pruning wounds. Decay fungus *Kretzschmaria deusta* at base.	Poor <10	Remove for arboricultural reasons.	8.6 234.5	U
T 7	Mature Common Lime *Tilia x europaea*	17.0 4.0 6.0 E	1 57	5.0 4.0 6.0 5.0	Asymmetrical crown. Occasional pruning wounds.	Good 40+	No action required.	6.8 147.0	B
T 8	Mature Common Ash *Fraxinus excelsior*	17.0 6.0 6.0 W	1 68	7.0 9.0 4.0 4.0	Asymmetrical crown. Occasional pruning wounds.	Good 40+	No action required.	8.2 209.2	B
T 9	Young Cherry *Prunus sp.*	4.0 2.0 1.0 N	1 12	2.0 1.0 3.0 1.0	Unbalanced crown. Self-seeded specimen growing on higher ground level. Situated on adjacent land.	Fair 20-40	No action required.	1.4 6.5	C
T 10	Semi-mature Apple *Malus sp.*	5.0 2.0 1.0 N	1 12	2.0 2.0 2.0 2.0	Balanced crown. Multiple pruning wounds. Situated on adjacent land on higher ground level.	Fair 10-20	No action required.	1.4 6.5	C

Appendix 2. Explanatory Notes

A2.1. Tree statistics and measurements

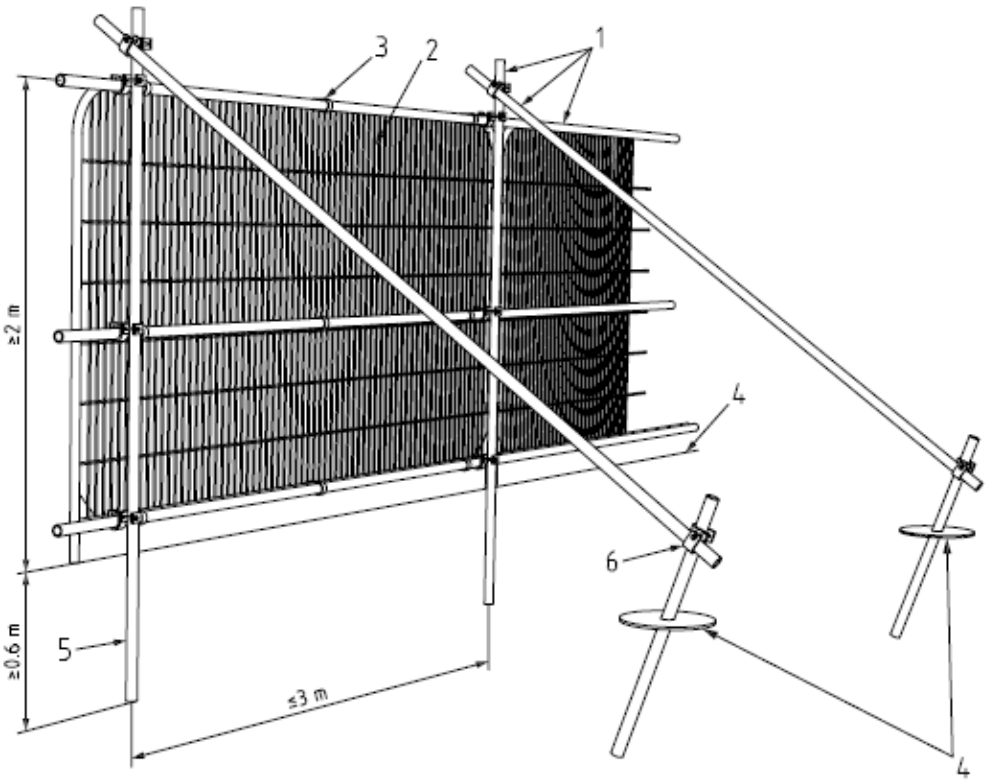
Survey record	Description
Height	Height of the tree in meters.
Canopy Height	Height of average canopy clearance in meters.
Stem Dia	Stem diameter recorded in centimetres at 1.5 meters above ground. Where the tree is multiple stemmed, each stem has been recorded.
Branch Spread	Measurement of canopy spread in meters – North, East, South and West.
Observations	Where limited inspection noted, dimensions are estimated.
Vitality	Condition of the tree, recorded as Good, Fair, Poor or Dead.
Life Exp	Life Expectancy - classed as; less than 10 years, 10 plus years, 20 plus years, or more than 40 years.
RPA Radius	Radius of the Root Protection Area, when plotted as a circle centred on the base of the stem.

A2.2. Tree retention categories

Retention category and definition	Criteria
U (marked in red on the plan) = trees for removal.	Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.
A (marked green on the plan) = Trees of high quality	Trees of high quality with an estimated remaining life expectancy of at least 40 years.
B (marked in blue on the plan) = Trees of moderate quality	Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
C (marked in grey on the plan) = Trees of low quality	Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.

Appendix 3. Protective Barrier Construction

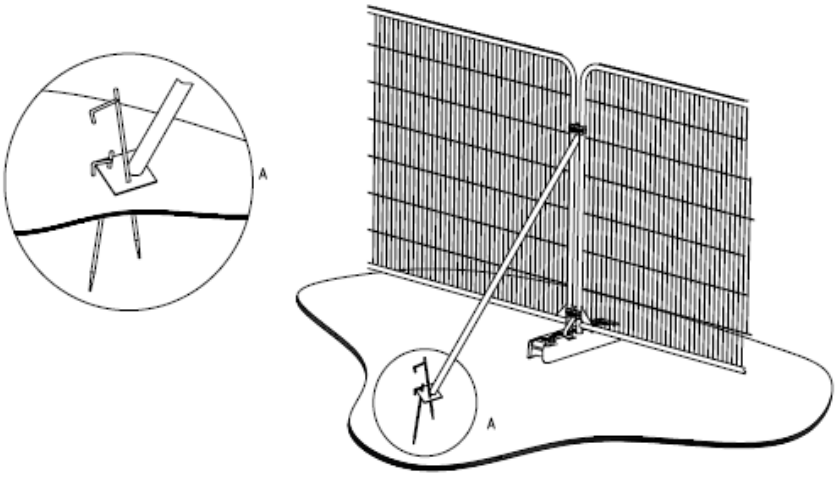
A3.1 *British Standard BS 5837: 2012* recommends a vertical and horizontal, scaffold framework, well braced to resist impacts, with vertical tubes at no more than 3m intervals. These should be driven into the ground. Weld mesh panels should be affixed to this framework with scaffold clamps (see below).



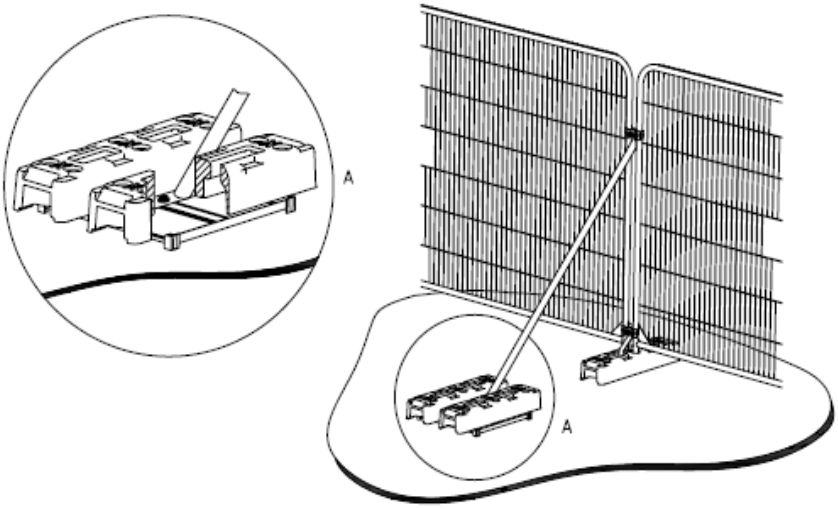
Key

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

Default protective fencing barrier to BS 5837: 2012.



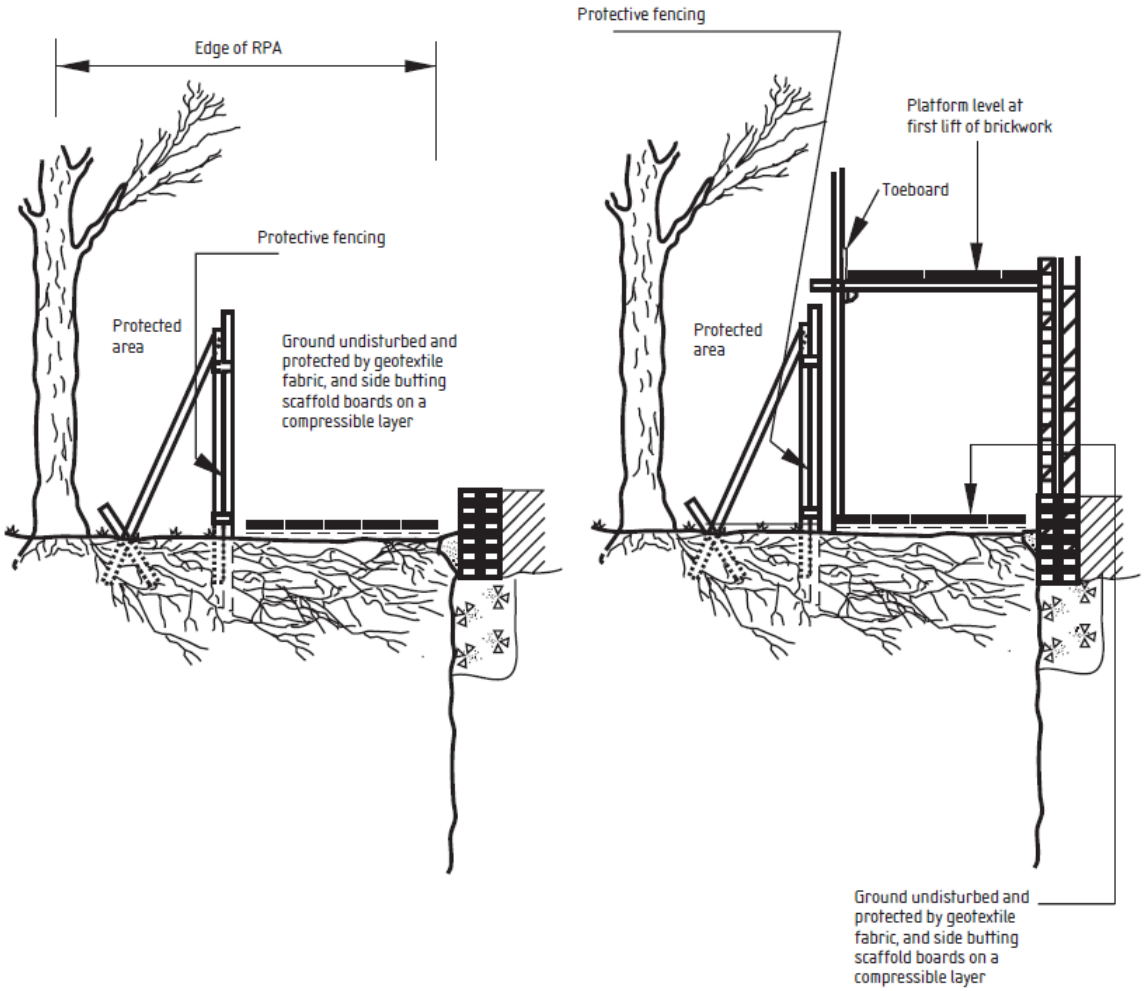
a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Examples of above-ground stabilizing systems

A3.2 Ground protection recommended for RPAs outside of the protective fencing barrier.



Ground protection and scaffold construction within an RPA.

Drawing 1. Tree Constraints Plan

KEY

N

T = Individual tree
G = Group of trees
H = Hedge

RETENTION CATEGORIES:
British Standard BS5837:2012
Please refer to Appendix 2 of the report for category definitions.

CATEGORY A:
Tree of HIGH quality

CATEGORY B:
Tree of MODERATE quality

CATEGORY C:
Tree of LOW quality

CATEGORY U:
Tree UNSUITABLE for retention

Root Protection Area (RPA)

Project:

69 Norfolk Street
Glossop
SK13 7RA

Title:

Tree Constraints Plan

Drawing No:

TCP.11971.01

Scale:	1:200 @ A3
Drawn by:	RG
Approved by:	KG

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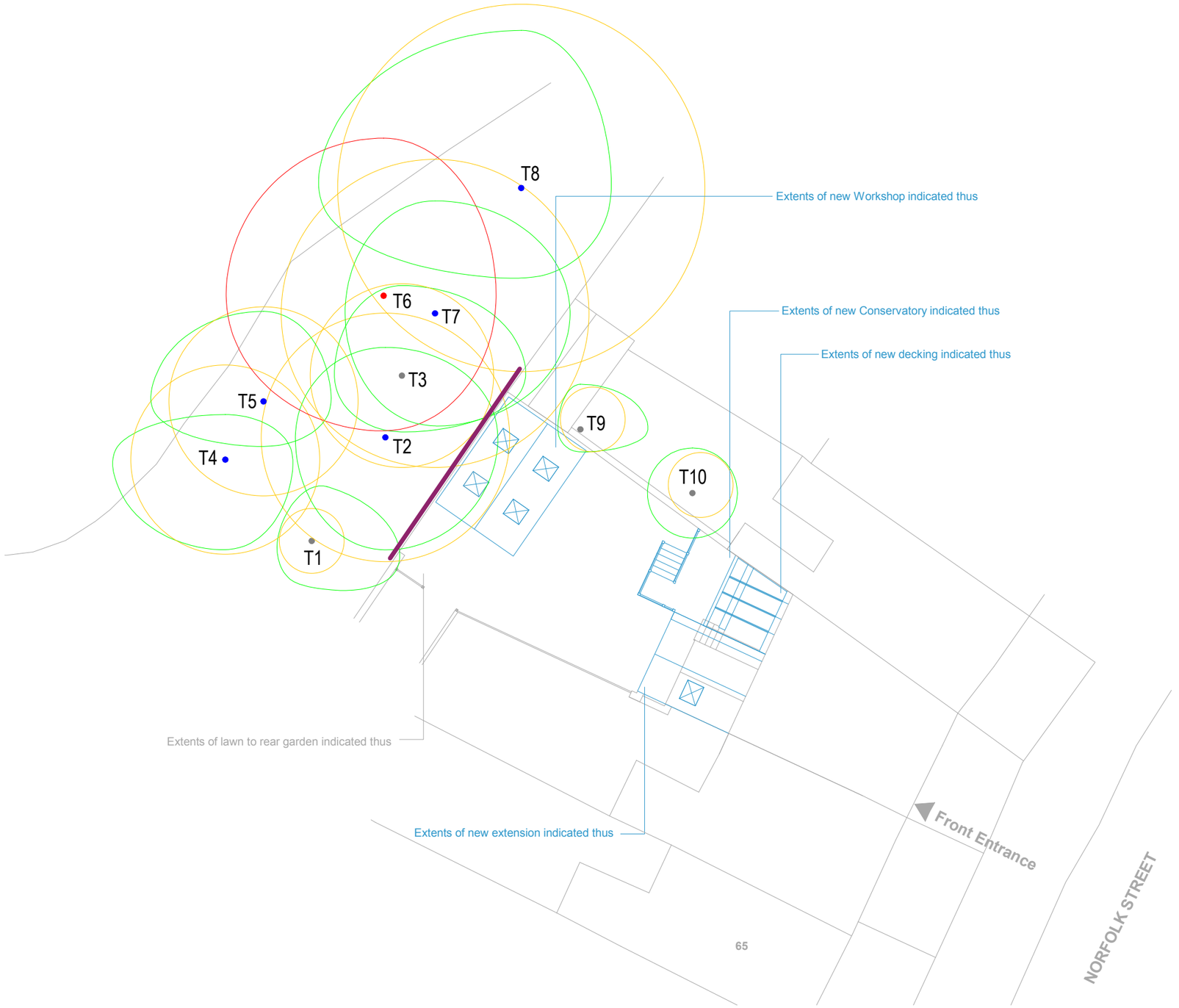
Drawing 2. Tree Protection Plan



KEY

N

T = Individual tree
G = Group of trees
H = Hedge

Proposed development layout

Tree to be RETAINED
Stem colour is retention category

Tree to be REMOVED
for arboricultural reasons

Root Protection Area (RPA)

Protective barrier position

Project:

69 Norfolk Street
Glossop
SK13 7RA

Title:

Tree Protection Plan

Drawing No:

TPP.11971.01

Scale:	1:200 @ A3
Drawn by:	RG
Approved by:	KG

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