BOSKYTREES arboricultural consultancy

Arboricultural Impact Assessment & Tree Protection Plan

For trees at

55 Fitzroy Park, Highgate

On behalf of

The Turner Stokes Family and the Springer Family
The Lodge
Fitzroy Park
Highgate
N6 6HT

Inspected and prepared by

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SUMMARY

The trees considered in this report are located on and around land at 55 Fitzroy Park in Highgate. The report is intended to support a plan to demolish the existing buildings and construct five new homes at the site.

Arboricultural advice was taken early in the planning process and so the design incorporates the best trees on the site. 39 trees will need to be removed in order to construct the proposed development, this includes three B-grade trees, 31 C-grade trees and five trees in very poor condition (category U trees). The trees that will need to be removed are mostly small and set back from the road and so their loss will not have a significant impact on the character or appearance of the local area. The loss of these trees will be compensated by planting 82 new trees. These new trees will provide an age and species diversity that will enhance the resilience of the existing tree canopy cover.

Temporary fencing will be used during construction to protect retained trees situated near works areas; the location of necessary tree protection fencing is indicated on the tree protection plan and a specification for this fencing is provided in Appendix 2. **For effective tree protection it is crucial that the protective fencing is installed before any heavy plant machinery is used on the site.** The tree protection fencing will remain in place until the construction works have been completed.

Arboricultural supervision will be required if any unforeseen construction activity is to take place within the root protection area of any of the retained trees on or near the Site. This supervision will be carried out by a suitably qualified arboriculturist. It is advised that the project arboriculturist and the local authority's tree officer are informed of necessary works near trees as soon as they become apparent.

General advice on the protection of trees during construction works is provided in this report. The site manager must be made aware of the tree protection requirements at the site and provided with a copy of this report; this information must be passed on to all construction staff.

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1 INTRODUCTION

1.1 Background information

The Turner Stokes Family and the Springer Family propose to redevelop the land at 55 Fitzroy Park in Highgate, N6 6JA; this land is hereafter referred to as the 'Site'. This would involve demolishing the existing buildings and constructing five new homes; these proposals are hereafter referred to as the 'Proposed Development'.

The following documents have been reviewed to inform this report:

- Proposed Site Plan - LUC - Drawing # 7122 010 R

An initial tree constraints plan was produced in May 2017 and this has informed the proposed Site layout.

I am informed that the Site is located within a Conservation Area but none of the trees are protected by a tree preservation order (TPO), however there is a TPO protecting trees at Number 53 beyond the northern boundary of the Site (Camden Council ref. TPO C6). These trees are highlighted in the tree schedule.

1.2 The assignment

LUC instructed Bosky Trees, on behalf of The Turner Stokes Family and the Springer Family, to undertake a Site visit, survey the trees that could be affected by the Proposed Development and specify suitable tree protection measures. The information compiled within this report is in accordance with BS5837:2012[1] - Trees in relation to design, demolition and construction - Recommendations. The following information is provided in this report to accompany a planning application for the Proposed Development:

- A tree survey plan based on the topographical survey provided, with any additional tree(s) indicatively plotted.
- An arboricultural impact assessment of the Proposed Development identifying trees that will be lost as well as trees that can be retained and protected during development works.
- Information regarding the location of tree protection fencing and ground protection measures on a tree protection plan.
- Recommendations for remedial tree works to be undertaken to retained trees prior to commencement of the necessary Site clearance and construction.
- Method statements for works near trees.

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

1.3 Limitations

The assessment and works recommendations relate to conditions found at the time of inspection. Any significant alteration to the Site that may affect the trees that are present or have a bearing on the planning implications (including level changes, hydrological changes, storms, extreme climatic events or Site works) will necessitate a re-assessment of the trees.

It should be noted that this survey is not a tree safety inspection; it has been carried out in order to inform the planning process. Where clear and obvious hazards have been observed, these have been addressed in the works recommendations. A full assessment of the levels of risk posed by trees would be informed by considering Site use together with hazards present within a tree. Changes in Site use are likely to occur during, and result from, the Proposed Development. In light of these factors, regular tree risk assessments are advised.

This report does not consider any aspect of tree-related building subsidence. If shrinkable clay soils are present on Site the guidance given in the National House Building Council (NHBC) chapter 4.2[2] should be used to avert the risk of future subsidence of new buildings.

No detailed assessment of the potential conflict between future Site use and the shade cast by trees has been undertaken within this report.

2 TREE SURVEY INFORMATION

2.1 Details of the site visit

I visited the Site and carried out the tree survey on 11th May 2017. Weather conditions were dry and clear and did not present any constraints. The survey considered all of the trees in and around the Site.

The Site is currently a residential dwelling with a large garden. There is an orchard in the centre of the garden and the remaining trees are mainly around the perimeter of the garden and the pond. There is a disused tennis court in the eastern corner of the site and some goat willow and silver birch trees have established naturally around the perimeter fence.

2.2 Data collection

Trees were tagged during the survey and this tag number is used to identify them throughout this report. These tag numbers are also listed in the tree schedule at the rear of the report and they are on the tree plans.

The tree inspections took place from ground level using the Visual Tree Assessment method[3]. In addition each tree has been classified into four retention categories, A, B, C or U (in accordance with the system described in Table 1 of BS5837). The stem diameter has been used to calculate the root

[2] National House Building Council (2008). NHBC Standards Chapter 4.2 - Building near trees.

[3] Mattheck, C. and Breloer, H. (1995). The Body Language of Trees: A handbook for failure analysis. Research for Amenity Trees 4. HMSO, London.

protection area (RPA[4]) required by each tree during construction. Information on each tree is listed in the schedule provided in Appendix 1.

A total of 75 individual trees were surveyed and a summary of their value/retentive worth is provided in Table 1.

Table 1: A summary of the retentive worth classified to the trees included in the survey.

BS5837 Category	Quality	Number of Trees
A	High	1
B	Moderate	17
C	Low	51
U	Very poor	6
	Total	**75**

2.3 The tree plans

The tree removal plan (TR-1) shows the root protection areas required by each tree and identifies which trees are to be removed to enable the Proposed Development. The tree protection plan (TPP-1) shows where fencing and ground protection will be installed in order to protect trees during construction. These plans are provided at the rear of the report.

3 ARBORICULTURAL IMPACT ASSESSMENT AND PROPOSED MITIGATION

3.1 Trees for removal

34 trees will need to be removed in order to construct the Proposed Development, these include three B-grade trees (T502, T524 and T525) and 31 C-grade trees (T501, T503, TT516, T519, T523, T526, T527, T528, T532, T533, T537, T539–T546, T551, T555, T556, T562, T564, T565, T568, T569 and T572–T575).

The removal of five further trees (T547–T550 and T554) is recommended because they are in poor condition and have less than ten years useful life expectancy, i.e. their removal is recommended regardless of any development proposals. These trees are considered to be category U in accordance with the guidance provided in Table 1 of BS5837.

3.2 Visual impact on the local treescape

The trees that will need to be removed are mostly small and set back from the road; as such they have relatively low visual amenity value and their loss will not have a significant impact on the character or appearance of the local area. Nevertheless, there will be new tree planting to compensate for the loss of these trees included as part of the Proposed Development.

[4] The root protection area (RPA) is a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of roots and soil structure is treated as a priority.

3.3 New tree planting

A total of 82 new trees will be planted to compliment the new Site layout (28 semi-mature and 54 heavy standard). The proposed locations for these trees are shown on the proposed site plan produced by Land Use Consultants that accompanies this submission (Drawing ref. 7122 010 R).

The locations for the new tree planting will provide them with the space that they will require for stem thickening and the development of a mature tree crown. Consideration of the existing tree species mix has also been made and species that enhance the existing tree population have been selected. These new trees will provide an age and species diversity that will enhance the resilience of the existing tree canopy cover.

3.4 New service runs

Installation of underground services by typical 'open trench' methods near trees is likely to sever roots; this will harm the physiological condition of the trees, provide an opportunity for fungal infection, and could leave them prone to windthrow. Therefore, the locations for new underground services will be designed to avoid the root protection areas required by the retained trees.

If any additional underground services are required I recommend that suitable members of the project team, including an arboricultural consultant, should design their routes. An appropriate specification and method statement for their installation would need to be produced, and guidance provided in NJUG4[5] must be followed.

3.5 Level changes and retaining walls

Any changes in levels or slopes need to comply with the constraints attached to the construction exclusion zones. This means that any soil grading must take place outside of the fenced areas identified on the tree protection plan.

3.6 Tree protection fencing

Temporary fencing and/or barriers must be used during construction to protect retained trees situated near works areas. The location of necessary tree protection is indicated on the tree protection plan at the rear of the report (TPP-1). **For effective tree protection it is crucial that the protective fencing is installed before any heavy plant machinery is used on the Site.** The tree protection fencing must remain in place until the construction works have been completed (unless under arboricultural supervision). The fenced off areas will be construction exclusion zones.

A specification for suitable tree protection fencing is provided in Appendix 2.

3.7 Ground protection

Construction staff will need access around each of the buildings during the construction phase. In order to allow for this whilst retaining as much undisturbed soil as possible near adjacent trees two areas of ground protection will be required, one near T504 and the other beside T553. The areas where this ground protection will be required are identified on the tree protection plan and a detailed specification is provided in appendix 2. The restrictions for these areas are the same as those for the

[5] NJUG (2007): Guidelines for the Planning, Installation, and Maintenance of Utility apparatus in the Proximity to Trees. National Joint Utilities Group Volume 4.

construction exclusion zones. If these protective measures are employed appropriately I expect that there will be a negligible impact on the adjacent trees.

3.8 General method statement for effective tree protection

Trees are vulnerable to root damage caused by ground disturbance, direct injury of the trunk or branches, environmental change, pests, and diseases. Construction work often exerts pressures on existing trees, and a tree that has taken many decades to reach maturity can be damaged irreparably in a few minutes by unwitting or negligent actions.

The Site manager must be made aware of the tree protection requirements at the Site and the guidance provided in this report. It is strongly recommended that there is a pre-start meeting to ensure the correct erection of barriers forming the construction exclusion zones.

For this project temporary fencing and ground protection will be used during construction to protect the retained trees at the Site (see sections 3.6 and 3.7 for further guidance). The fenced off areas will be construction exclusion zones.

Soil compaction quickly occurs if vehicles pass over an area of soil. Compaction may cause reduced infiltration rates of water, poor drainage, reduced availability of water, and reduced air and oxygen supply to roots. This leads to reduced root growth and as a result the health of the tree is impacted. Therefore, to ensure that soil compaction is avoided, it is very important that no vehicles enter the fenced-off areas during construction operations.

All construction staff should be made aware of the following restrictions that apply to the construction exclusion zones:

1) No excavation or raising of soil levels is permitted within the construction exclusion zones without written permission from the project arboriculturist;

2) Site offices and staff welfare facilities must be located outside of the construction exclusion zones unless agreed with the local authority's arboricultural officer;

3) No materials of any kind are to be stored dumped or discharged within the construction exclusion zone;

4) No utility trenches are to be routed through a construction exclusion zone without written permission from the local authority's arboricultural officer;

5) Care must be taken when planning site operations to ensure that wide or tall loads, or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Branches may be tied back so that they are out of the way if necessary;

6) Potential contaminants such as diesel oil, cement and bitumen must be stored at least 10m from any trees, with provision made for any spillage or run off to be contained away from the protected area;

7) Cement and concrete mixing must take place at least 10m from any trees, over a suitable hard surface to prevent soil contamination from spillage or washing out;

8) Fires should be avoided, however if permitted by the site manager, they must not be lit in a position where heat could affect foliage or branches, (At least 15m from the base of a tree would normally be sufficient).

4 RECOMMENDATIONS

4.1 Tree work

All of the tree works that would be necessary for the Proposed Development to proceed are listed in the schedule in Appendix 1.

All permitted and approved tree work must be undertaken in accordance with BS3998:2010 – Recommendations for tree work[6]. It would be easiest if these works are carried out at the beginning of the construction phase, before protective fencing is put up. Only qualified and insured tree surgeons should be employed.

4.2 Legal restrictions to tree works

All of the trees included in this survey are located within a Conservation Area and you should be aware that it is an offence to wilfully damage or destroy a tree that is situated in a Conservation Area. The Town and Country Planning (Tree Preservation) (England) Regulations 2012 and its accompanying 'Guide to tree preservation procedures', makes clear that deliberate destruction of a protected tree or damage in a manner likely to destroy it, without the permission of the Local Planning Authority, would render you liable to an unlimited fine. Also, a replacement tree would normally have to be planted if the tree was cut down or destroyed.

If this report is submitted to support a full planning application, and that application is subsequently approved, any tree works listed in the report may be carried out prior to the commencement of construction without the requirement for further permission from the planning authority. However, since the property is in a Conservation Area, if any arboricultural works are intended before planning permission has been approved you would be required to notify the local planning authority of any intended tree works, and they have up to 6 weeks to respond. Please contact Bosky Trees if you would like these matters explained in more detail.

As it is illegal to disturb an active bird's nest, works may be constrained from March to August. Bat roosts are also protected and tree works could be delayed if any roosting bats are encountered. A tree surgeon or an ecologist will be able to advise on this matter.

4.3 Works supervision and monitoring

Arboricultural supervision will be required if any unforeseen construction activity is to take place within the root protection area of any of the retained trees on or near the Site. This supervision must be carried out by a suitably qualified arboriculturist. It is advised that the project arboriculturist and the local authority's tree officer are informed of necessary works near trees as soon as they become apparent.

[6] British Standards Institution (2010). BS3998 Recommendations for Tree Work. BSI, London.

Appendix 1: Tree Schedule

Site: 55 Fitzroy Park, Highgate

Surveyor: Ben Rose

Date of Survey: 11th May 2017

Tag Number	Tree Species	Height (m)	Number of Stems	Stem Ø (cm)	N - Radius (m)	S - Radius (m)	E - Radius (m)	W - Radius (m)	1st Branch (m)	Age Class	Overall Health	ULE (Years)	Tree Structural Condition & Site Notes	Recommended Management	Category
T501	Holm oak	11	MS	30	3.5	2	3	2.5	4	EM	G	40+	This is a small multi-stemmed tree that is unlikely to develop into a high-value specimen.	Fell and remove stump.	**C1**
T502	English oak	10	1	24	3.5	4	3	3	2	EM	G	40+	Low crown. No obvious significant defects. Situated close to the existing building.	Fell and remove stump.	**B1**
T503	Loquat	4	MS	13	2	1	1.5	1	1	EM	G	20+	This is a small multi-stemmed tree/shrub.	Fell and remove stump.	**C1**
T504	Copper beech	16	1	42	3.5	4	4.5	4	4	M	G	40+	No obvious significant defects.	No action required at present.	**A1**
T505	Hazel	5	MS	11	3	0	0	3	2	M	G	40+	This is a small multi-stemmed tree/shrub suppressed by the larger adjacent beech.	No action required at present.	**C1**
T506	Norway spruce	14	1	25	2	2	0.5	1.5	9	M	G	40+	No obvious significant defects. The upper crown is starting to conflict with the beech.	No action required at present.	**B1**
T507	Hazel	5	MS	16	3	0.5	0.5	2.5	2	M	G	40+	This is a small multi-stemmed tree/shrub. Limited value due to its small size.	No action required at present.	**C1**
T508	Yew	3	1	16	3.5	0.5	2	2.5	2	EM	G	40+	Small tree. No obvious significant defects.	No action required at present.	**C1**
T509	False acacia	10	1	12	3	2	1	3	4	SM	F	<10	Basal shoot growth. Large scar on the trunk with associated decay. Little long-term value.	No action required at present.	**U**
T510	Hazel	6	MS	25	3	1	2.5	2.5	2	M	G	40+	This is a small multi-stemmed tree/shrub. Limited value due to its small size.	No action required at present.	**C1**
T511	Hazel	5	MS	17	1	2.5	2.5	2.5	2	M	G	40+	This is a small multi-stemmed tree/shrub. Limited value due to its small size.	No action required at present.	**C1**
T512	Bay	10	MS	28	2	2	2	2	2	M	G	40+	This is a small multi-stemmed tree/shrub. Limited value due to its small size.	No action required at present.	**C1**
T513	Hazel	6	MS	29	5	3.5	3.5	3	2	M	G	40+	This is a small multi-stemmed tree/shrub. Limited value due to its small size.	No action required at present.	**C1**
T514	Ash	7	2	14	2	1	1	2.5	5	M	G	40+	No obvious significant defects. Situated beyond the boundary fence.	No action required at present.	**C1**

A key explaining each category is provided at the rear of the schedule

Tag Number	Tree Species	Height (m)	Number of Stems	Stem Ø (cm)	N - Radius (m)	S - Radius (m)	E - Radius (m)	W - Radius (m)	1st Branch (m)	Age Class	Overall Health	ULE (Years)	Tree Structural Condition & Site Notes	Recommended Management	Category
T515	Cotoneaster	5	MS	17	3.5	3	2	2.5	2	M	G	40+	Attractive small tree. Situated beyond the boundary fence.	No action required at present.	**B2**
T516	Laburnum	5	1	26	1.5	2	2	2	2	M	G	40+	This is a small tree with limited value due to its small size.	Fell and remove stump.	**C1**
T517	Norway spruce	19	1	41	1.5	2	2.5	2	1	M	G	40+	No obvious significant defects.	No action required at present.	**B1**
T518	Norway spruce	18	1	22	2.5	0.5	1	2	3	M	P	10+	Grass clippings piled over the root zone. Sparse foliage.	No action required at present.	**C1**
T519	Hawthorn	4	1	7	0.5	2	2	1	1	SM	G	40+	No obvious significant defects.	Fell and remove stump.	**C1**
T520	Walnut	8	3	31	4.5	5	6.5	5	2	M	G	20+	Low crown. No obvious significant defects.	No action required at present.	**B1**
T521	Ash	14	1	27	3.5	3	4	3	3	EM	G	40+	Dense arboreal ivy smothering the crown.	Sever ivy at base.	**B1**
T522	Ash	7	1	8	1.5	1	2	0.5	3	Y	G	40+	No obvious significant defects.	No action required at present.	**C1**
T523	Holm oak	8	2	18	2	2.5	2.5	2	1	EM	G	40+	Growing through a chain-link fence. Few merits.	Fell and remove stump.	**C1**
T524	Variegated holly	8	1	29	3	3	4	1.5	2	M	G	40+	No obvious significant defects.	Fell and remove stump.	**B1**
T525	Pear	8	1	35	3	2.5	2.5	3	3	M	F	40+	Old orchard tree. No obvious significant defects.	Fell and remove stump.	**B3**
T526	Plum	5	1	20	2	1.5	2	2	3	M	G	40+	Small orchard tree. Scar from limb tear at 2m.	Fell and remove stump.	**C3**
T527	Cherry	6	1	13	0.5	3	1	1.5	2	EM	G	40+	Small tree shaded by companions.	Fell and remove stump.	**C1**
T528	Cotoneaster	5	4	21	1	3.5	2.5	3	2	M	G	40+	This is a small multi-stemmed tree/shrub. Limited value due to its small size.	Fell and remove stump.	**C1**
T529	Apple	6	3	41	3	5	5.5	2.5	2	M	G	40+	Old orchard tree. Dense canopy, would benefit from pruning.	No action required at present.	**C1**
T530	Plum	2	1	7	1	1	2	0	2	SM	F	10+	Small orchard tree.	No action required at present.	**C1**
T531	Plum	4	3	24	2	2.5	3	2.5	2	M	G	40+	Small orchard tree.	No action required at present.	**C1**
T532	Plum	5	2	34	3	2	1.5	3	4	M	G	40+	Small orchard tree.	Fell and remove stump.	**C1**
T533	Apple	5	1	11	2	0.5	2	1	4	M	F	40+	Small orchard tree.	Fell and remove stump.	**C1**
T534	Apple	4	1	17	2.5	1	2.5	2.5	2	M	G	40+	Small orchard tree.	No action required at present.	**C1**

A key explaining each category is provided at the rear of the schedule

Tag Number	Tree Species	Height (m)	Number of Stems	Stem Ø (cm)	N - Radius (m)	S - Radius (m)	E - Radius (m)	W - Radius (m)	1st Branch (m)	Age Class	Overall Health	ULE (Years)	Tree Structural Condition & Site Notes	Recommended Management	Category
T535	Apple	5	1	19	1	3	2.5	2.5	2	M	G	40+	Small orchard tree. Past collapse and a new stem is developing from the base.	No action required at present.	**C1**
T536	Apple	4	1	21	3.5	2	3	2	2	M	G	40+	Small orchard tree.	No action required at present.	**C1**
T537	Cherry	5	2	25	4	2	3	2	2	M	G	40+	Small orchard tree.	Fell and remove stump.	**C1**
T538	Apple	4	1	10	1.5	1	1.5	1	3	M	G	40+	Small orchard tree.	No action required at present.	**C1**
T539	Apple	4	1	14	2	1.5	1.5	2	2	M	G	40+	Small orchard tree.	Fell and remove stump.	**C1**
T540	Plum	3	1	7	1	1	1.5	1	1	M	G	40+	Small orchard tree.	Fell and remove stump.	**C1**
T541	Plum	2	1	6	1	1	1.5	1	1	M	G	40+	Small orchard tree.	Fell and remove stump.	**C1**
T542	Apple	5	2	19	2.5	1.5	2	2.5	3	M	G	40+	Small orchard tree.	Fell and remove stump.	**C1**
T543	Apple	6	1	22	2	2	3.5	2.5	3	M	G	40+	Small orchard tree.	Fell and remove stump.	**C1**
T544	Apple	5	1	16	2.5	1.5	2	1.5	2	M	G	40+	Small orchard tree.	Fell and remove stump.	**C1**
T545	Quince	6	1	16	2.5	2.5	3	2	2	M	G	40+	Small orchard tree.	Fell and remove stump.	**C1**
T546	Cherry	6	5	32	3	2	2.5	3	3	M	G	40+	Small orchard tree.	Fell and remove stump.	**C1**
T547	Goat willow	10	1	49	5	5	5	4	3	M	G	10+	Raised surface roots lifting the tarmac of the tennis court. Growing through chain-link fence. Little long-term value.	Fell and remove stump.	**U**
T548	Silver birch	9	1	18	2.5	1	2	1	5	M	G	20+	Self-sown and growing through the chain-link fence.	Fell and remove stump.	**U**
T549	Silver birch	9	1	15	2	1	1	2	1	M	G	20+	Self-sown and growing through the chain-link fence.	Fell and remove stump.	**U**
T550	Goat willow	9	1	21	4	1.5	3	3	1	M	G	20+	Self-sown and growing through the chain-link fence.	Fell and remove stump.	**U**
T551	Ash	17	1	60	4.5	5	5	1	1	M	F	20+	Dense arboreal ivy. Rooting beneath the tennis court tarmac.	Fell and remove stump.	**C1**
T552	Hawthorn	7	2	24	0	5	3	2.5	4	M	G	20+	Arboreal ivy. No obvious significant defects.	No action required at present.	**C1**
T553	Sycamore	19	3	54	5	5	4	3	9	M	G	20+	Tall tree. Dense arboreal ivy. No obvious significant defects.	Sever ivy at base.	**B2**
T554	Goat willow	5	1	15	3	1	5	0.5	2	SM	G	<10	Growing immediately adjacent to a thin concrete retaining wall.	Fell and remove stump.	**U**
T555	Goat willow	10	1	24	3	1	4	1	1	EM	G	20+	Self-sown. The crown hangs low over the tennis court. Few merits.	Fell and remove stump.	**C1**
T556	Goat willow	10	2	20	1	3	4	2	1	EM	G	20+	Self-sown. Poor location.	Fell and remove stump.	**C1**

A key explaining each category is provided at the rear of the schedule

Tag Number	Tree Species	Height (m)	Number of Stems	Stem Ø (cm)	N - Radius (m)	S - Radius (m)	E - Radius (m)	W - Radius (m)	1st Branch (m)	Age Class	Overall Health	ULE (Years)	Tree Structural Condition & Site Notes	Recommended Management	Category
T557	Eucalyptus	20	3	25	3	3	1	3	4	M	G	20+	Two dead lower branches hang low over the site. Situated in adjacent garden.	Remove the two dead overhanging branches.	**B1**
T558	Eucalyptus	20	3	41	4	5	5	1	4	M	G	20+	No obvious significant defects. Situated in adjacent garden.	No action required at present.	**B1**
T559	Sycamore	14	4	28	5	5	5	5	5	M	G	20+	No obvious significant defects. Situated in adjacent garden.	No action required at present.	**B1**
T560	White willow	15	1	54	4	5	4	4.5	6	M	F	20+	Past crown reduction, the regrowth is now approximately 4m long.	No action required at present.	**B1**
T561	Goat willow	7	MS	27	3	3	4	2.5	2	EM	G	40+	This is a multi-stemmed willow at the edge of the pond.	No action required at present.	**C1**
T562	Ash	9	1	12	2	1.5	1	2	3	EM	G	40+	No obvious significant defects.	Fell and remove stump.	**C1**
T563	Silver birch	11	1	27	4	3	4	3	2	M	G	40+	Attractive crown form.	No action required at present.	**B1**
T564	Apple	2	1	14	1.5	1.5	1.5	1.5	1.5	EM	G	40+	Small orchard tree.	Fell and remove stump.	**C1**
T565	Apple	2	1	12	1.5	1.5	1.5	1	1.5	EM	G	40+	Small orchard tree.	Fell and remove stump.	**C1**
T566	Goat willow	8	MS	32	1	3.5	3.5	3	2	M	G	40+	This is a multi-stemmed willow at the edge of the pond.	No action required at present.	**C1**
T567	Ash	11	1	26	4	4	4	3	4	M	G	40+	No obvious significant defects.	No action required at present.	**B1**
T568	Amelanchier	4	1	9	1	2	2	1	2	SM	G	40+	No obvious significant defects.	Fell and remove stump.	**C1**
T569	Apple	2	1	16	1.5	1.5	1.5	1	1.5	EM	G	40+	Small orchard tree. Old basal wound.	Fell and remove stump.	**C1**
T570	Sycamore	16	1	31	2.5	4	4	3.5	4	M	G	40+	No obvious significant defects. Situated in an adjacent garden beyond a retaining wall.	No action required at present.	**B2**
T571	Sycamore	16	1	30	3.5	3	3.5	2.5	4	M	G	40+	No obvious significant defects. Situated in an adjacent garden beyond a retaining wall.	No action required at present.	**B2**
T572	Ash	6	1	10	2	1	2	1	2	SM	G	20+	Small tree. No obvious significant defects.	Fell and remove stump.	**C1**
T573	Cherry	5	1	12	2	2	3.5	2	3	EM	F	10+	Small tree. Dying branch overhangs the road. Few merits.	Fell and remove stump.	**C1**
T574	Cherry	5	2	13	2.5	2.5	2	2.5	2.5	EM	F	20+	Small tree beneath suspended cables. The main leader has recently been cut.	Fell and remove stump.	**C1**
T575	Holly	4	1	9	1.5	1	1.5	0.5	2	EM	G	20+	Small tree. No obvious significant defects.	Fell and remove stump.	**C1**

A key explaining each category is provided at the rear of the schedule

Tree Schedule - KEY

Tree/Group/Hedge Number
Tree, tree-groups or hedges have been allocated a number for the purpose of this survey. Numbers within the Tree Schedule relate to those marked on the Tree Constraints Plan and Tree Protection Plan drawings.

Species
Common names are listed.

Number in Group
Number of trees within a group. A group of trees may comprise of more than one species.

Height (m)
All heights are estimated in metres.

Number of Stems
The number of stems is either 1, 2, 3, 4, 5 or MS (multi-stemmed). This feature influences how the area of the recommended root protection area is calculated.

Stem or Combined Diameter (cm)
Single stem diameters are measured at 1.5m with a diameter tape. The combined stem diameters for trees with up to five stems and trees with more than five stems (MS) trees are calculated in accordance with the guidance. The stem diameters are measured in accordance with Figure C.1 of BS5837:2012. All measurements in bold are estimates due to restricted access to the tree trunk.

Crown Spread Radius (m)
The crown radius from tree trunk to crown limit identified at the four cardinal points (N, S, E and W) in order to allow presentation of the above ground constraints on the Tree Constraints Plan and Tree Protection Plan. Measurements are approximate and recorded to the nearest half metre.

All measurements depend on clear access about the crown.

1st Branch (m)
This is a record of the height of the lowest branch. This is useful when planning access routes or considering if pruning will be required to site new features under a tree crown.

Age Class
(Y) Young, (SM) Semi-Mature, (EM) Early-Mature, (M) Mature, (FM) Fully-Mature or (V) Veteran.

Overall Health
An overall assessment of the physiological condition of the tree recorded as (G) Good, (F) Fair, (P) Poor, (D) Dead.

ULE (Years)
Useful Life Expectancy. Anticipated future contribution to amenity, in years.

Tree Structural Condition & Site Notes
Observations on the form of the tree, condition and structural integrity.

Site notes are detailed when relevant to the growth conditions or rooting constraints.

Management Recommendations
Recommended tree surgery works to be carried our prior to construction. Terminology used is based on guidance detailed in BS3998:2010 – Recommendations for tree work[1].

Category
Tree category as defined within BS5837:2012. Categories A (high quality), B (moderate quality) and C (low quality) are trees that should be considered for retention. Category U trees are unsuitable for retention.

[1] British Standards Institution (2010). BS3998 - Recommendations for Tree Work. BSI, London.

APPENDIX 2: SPECIFICATION FOR TREE PROTECTION FENCING AND GROUND PROTECTION

Tree Protection Fencing

The location of the tree protection fencing that will be required is shown on the tree protection plan, (this is provided at the rear of this document). **For effective tree protection it is crucial that the protective fencing is installed before any heavy plant machinery is used on the site.** The tree protection fencing must remain in place until the construction works have been completed (unless under arboricultural supervision). The fenced off areas will be construction exclusion zones.

Most planning permission notices include a condition for tree protection that requires proof to be provided to demonstrate that the tree protection fencing has been put up properly and in accordance with the tree protection plan. This can be done by installing the fencing and informing the council two weeks in advance of starting construction, or by employing an arboricultural consultant to check the fencing and produce a record of the inspection. Alternatively photos could be taken as evidence that the fencing has been put up before any other works have started.

Fencing (or other forms of barrier) must be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained trees. In most cases fencing should consist of a scaffold framework comprising a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at a maximum interval of 3m. A specification for fencing suitable for most construction sites is provided in Figure 2 of BS5837 but in some situations more light-weight stabilising systems for fencing may be sufficient, this is detailed in Figure 3a and 3b in BS5837 (both of these diagrams are reproduced on the next page). Alternative methods of barrier could be appropriate for tree protection provided that they are sufficient to exclude construction activity; but any such methods must first be agreed by the Local Authority's arboricultural officer.

Once the barriers have been erected the areas of land within the construction exclusion zone should be regarded as sacrosanct, and should not be removed or altered without prior consultation with the project arboriculturist and, where necessary, approval from the local planning authority. All-weather notices should be attached to the fencing with words such as: 'Construction Exclusion Zone - No Access'. Throughout the construction period attention should be paid to ensure that barriers remain rigid and complete.

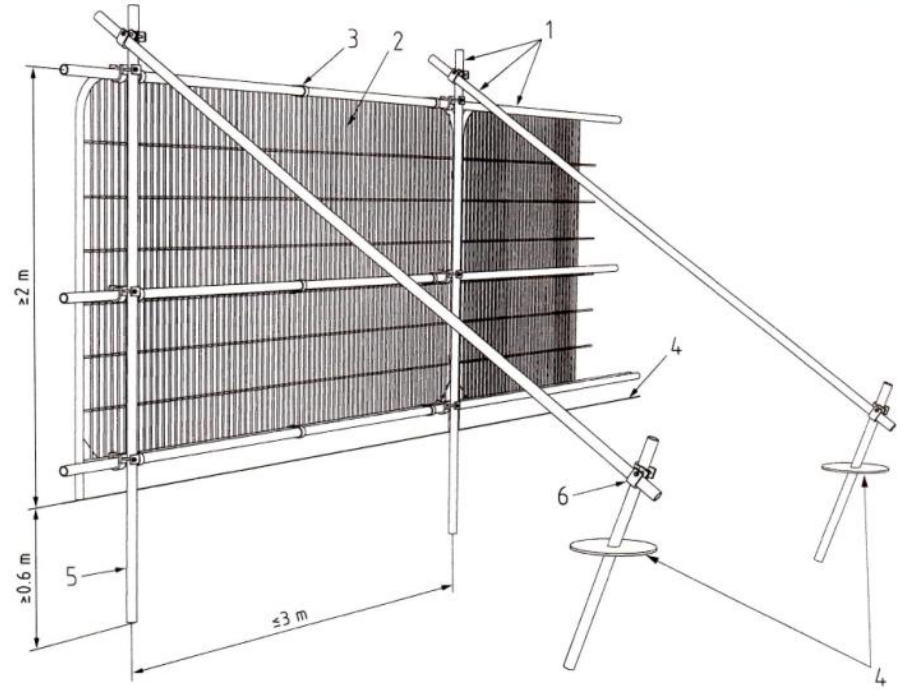
Arboricultural supervision will be required whenever construction and development activity is to take place within a construction exclusion zone. This supervision must be carried out by a suitably qualified arboriculturist.

Ground Protection

The ground protection will be comprised of a 5–10cm layer of woodchip mulch covered with load spreading boards. This will allow construction staff access around the structure whilst it is being built.

The areas where this ground protection will be required is labelled on the tree protection plan (TPP-1), and the restrictions for these areas are the same as those for the construction exclusion zone.

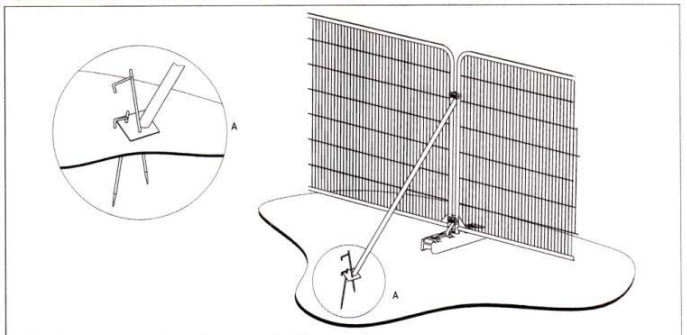
Figure 2 **Default specification for protective barrier**



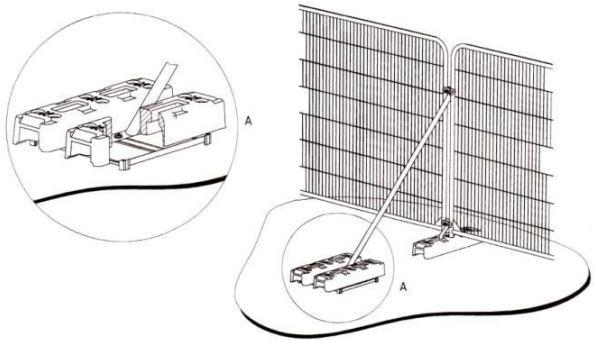
Key

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 3 **Examples of above-ground stabilizing systems**



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

0 4 8 12 16 20m

1:400

N

Key

Root Protection Area
Canopy spread
Trunk position
T1
Tree number

Trees scheduled for removal

BS5837:2012 - Tree Category

Category A Trees
High quality and value
At least 40 years life-expectancy

Category B Trees
Moderate quality and value
At least 20 years life-expectancy

Category C Trees
Moderate quality and value
At least 10 years life-expectancy

Category U Trees
Poor quality and value
Less than 10 years life expectancy

BOSKYTREES

Rook Lane House
Christchurch Street West
Frome, BA11 1EB

info@boskytrees.co.uk
Tel: 01373 832778

Project Name:
55 Fitzroy Park
Highgate

Drawing Title:
Tree Removal Plan

Drawing Number: TR-1

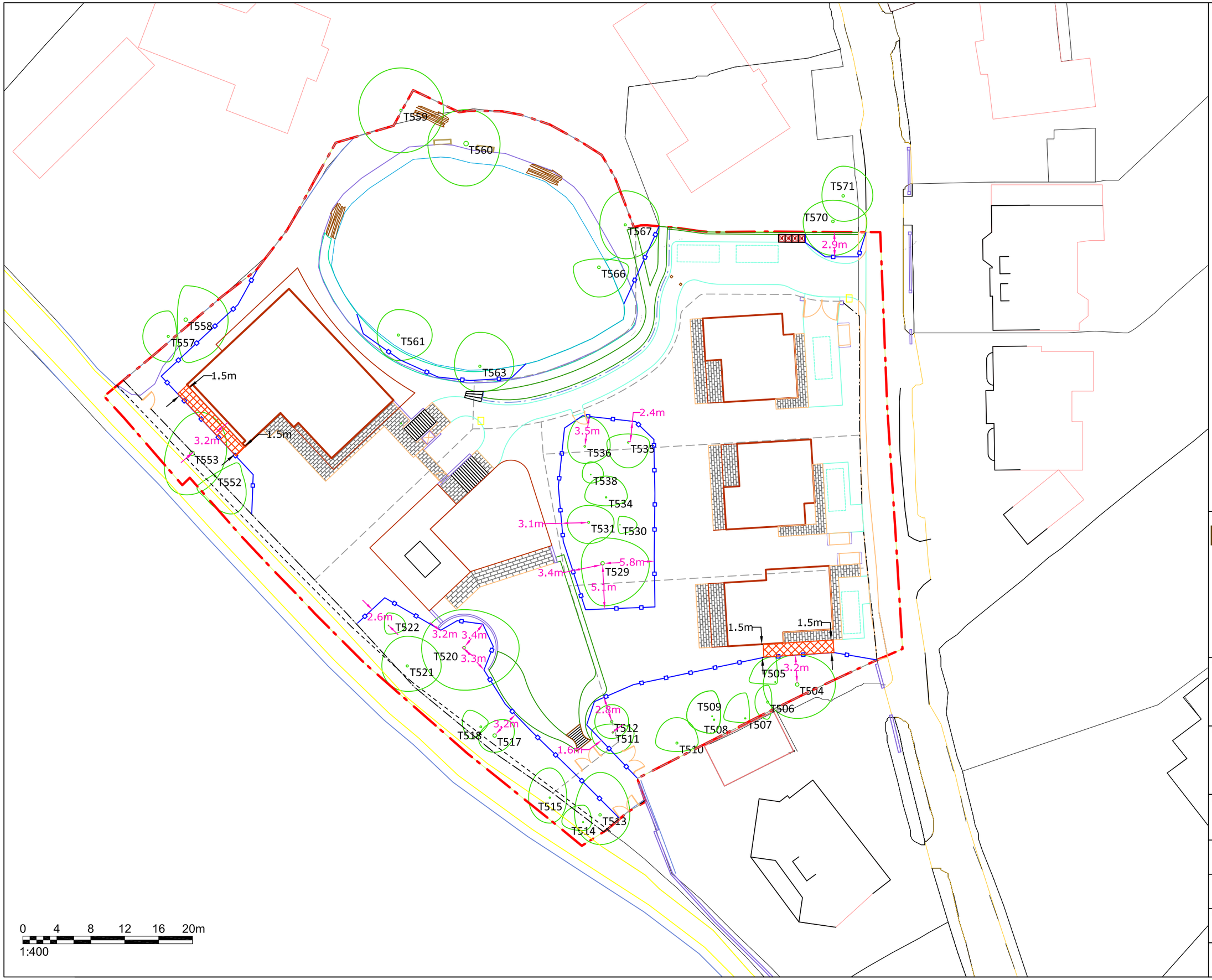
Revision:

Client: Mr G Springer

Agent:

Date: 23-4-2018

Scale: 1:400 @ A3



N

Key

- Tree protection fencing
- Canopy spread
- Trunk position
- T1 Tree number
- Tree group canopy outline
- Hedge line
- 1.0m Measurement from trunk to fence
- Areas where ground protection is to be installed during costruction

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