BS 5837:2012 Tree Survey, Arboricultural Impact Assessment, Tree Constraints Plan, Arboricultural Method Statement and Tree Protection Plan

At

9 Nassington Road,

London NW3 2TX

for

Mrs. M Branchmoore

November 2018

Advanced Tree Services
The Depot
Pixham Lane
Dorking
Surrey RH4 1PH

Phone: 01483 210066
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Introduction

1. I have been instructed by Mr William McGuiness of UV Architects on behalf of the owner of 9 Nassington Road to produce an Arboricultural Impact Assessment (AIA), Tree Constraints Plan (TCP), Arboricultural Method Statement (AMS) and Tree Protection Plan (TPP) for a development at the subject property.

2. The purpose of the Method Statement is to demonstrate how works will be undertaken at the property to avoid unacceptable arboricultural impact and provide an adequate level of protection for those trees shown to be retained. This is shown diagrammatically on the TPP, indicating the positions of protective fences delineating the Construction Exclusion Zones (CEZ).

3. The client has provided drawings showing plan views of both the first floor and basement levels.

4. I have not seen any plans indicating service runs at this moment in time.

5. I undertook the BS 5837:2012 tree survey on the 31st October 2018.

Proposed Development

6. It is proposed to extend the basement level towards the front and rear of the property, with lightwells at the front.

Tree Survey

7. I assessed the trees with due regard to the recommendations and guidelines contained in BS 5837:2012 – 'Trees in relation to design, demolition and construction – Recommendations'. The tree details were recorded in tabular form (appendix a) and have been categorised in accordance with the cascade chart for tree quality.

8. The survey detail provides the data to arrive at the Root Protection Areas (RPA) for the trees shown to be retained.

9. No soil samples were taken as a part of the survey.

10. The trees were inspected from the ground utilising the Visual Tree Assessment method as developed by Mattheck and Breloer (The Body Language of Trees, DoE leaflet No.4).

General Site/Tree Condition

11. No.9 Nassington Road is a large, semi-detached property, typical of other properties in the road.

12. The only trees on the site itself are some Apple and Pear trees in the rear garden. All four trees have been crown reduced in the past so whilst they are in good physiological condition, their overall form is poor. None of these trees can be seen from a public thoroughfare.

13. Situated in the pavement outside the front of the property is a mature Silver Birch. This tree is owned and maintained by the London Borough of Camden. Aside from a small bark wound on the north side of the main stem at 1.2m, this tree is in a good condition.

Arboricultural Impact Assessment

Presence of Statutory Protection

14. The website for the London Borough of Camden has confirmed that the site (and the surrounding properties) is located within the South Hill Park Conservation Area. Therefore, six weeks' notice will have to be given to the local authority before undertaking any tree works.

Effect of Development on Amenity Value

15. The only tree proposed to be removed as a direct result of the development is T2. It cannot be seen from the public highway and therefore the impact on the wider visual amenity will be negligible.

Above & Below Ground Constraints

16. The extension to the rear will impact upon the RPA for T2. However, given the size, condition and visual amenity of this tree, I consider any calls for its retention (with the need for specialist engineering solutions) would be unreasonable. In my opinion, removing T2 and replacing with a more sustainable, long term specimen in the rear garden would be far more beneficial.

17. Potentially the roots from T1 could extend in to the small front garden area of No.9. Although given the surrounding built structures it is more likely to have the majority of its roots under the pavement area.

18. I would recommend that some trial holes be hand dug at the extremities of the proposed lightwell closest to the tree. This will determine the presence of any roots and if there were, whether or not they could be severed without causing undue harm to T1.

19. If the development were to proceed, it would be prudent to protect T1 from accidental damage, by erecting freestanding, wooden hoarding around the main stem.

20. The rear garden can be completely cordoned off to protect the soil structure for future landscaping.

Site Access Constraints

21. There are no access constraints which require arboricultural intervention.

The Construction Process

22. Protective fences should be erected prior to any aspect of the development process. This means fences should be the first thing to be erected on site and the last thing to be removed prior to soft landscaping.

23. The sequence of construction events will be as follows;

- Installation of protective fences
- Installation of site facilities
- Construction phase
- Remove site facilities
- Remove protective fences

24. This logical sequence of events must be adhered to in order to ensure the smooth running of the construction and all parties are aware of the need to recognise the importance of the CEZ.

Infrastructure Requirements

25. As mentioned previously I have not seen any plans relating to the location of drainage or service runs. Suffice to say that they should be located outside of any RPA wherever possible. If new runs are required and they need to pass within the CEZ, careful positioning must be given consideration from the outset. Any installation must be carried out in strict accordance with National Joint Utilities Guidelines (NJUG) Volume 4 - *Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees* and BS 5837 section 7.7.

Proximity of proposal to trees

26. Given the orientation of the site and size of the trees, I do not consider that the proposed alterations will suffer undue shading.

Modifications Proposed to Accommodate Building/Trees

27. I do not envisage any modifications being necessary to accommodate nearby trees subject to trial hole investigation in the front garden.

Mitigation Planting

28. As mentioned previously, the loss of T2 can be mitigated with a new tree in the rear garden.

Arboricultural Method Statement (AMS)

Pre-development works

29. The following tree works are recommended before any construction commences.

    - T2 – Fell and grind

30. It will be the responsibility of the tree contractor to ensure that all the necessary consents have been sought from the local authority.

31. Where stumps are to be removed within the RPA for any retained tree, grinding will be kept to a maximum depth of 100mm.

Timing of operations

32. A logical sequence of events is to be observed as follows;

    - Arboricultural works
    - Installation of protective fences
    - Construction phase
    - Remove site facilities
    - Remove protective fences

33. No tree pruning works are to take place in early spring (bud break) or autumn (leaf fall) so as to minimise stress levels on the trees in question.

Pre-Commencement Site Meeting

34. A pre-commencement meeting will take place on site, with the appointed arboricultural consultant, the tree contractor, the site manager and the local authority arboricultural officer in attendance. The purpose of this meeting is to ensure that everyone fully understands the implications of the Arboricultural Method Statement and to agree on finer points of detail prior to any works commencing.

35. Prior to this meeting the trial excavation will have been hand dug at the extremities of the lightwell closest to T1. If any roots smaller than 25mm require pruning to facilitate installation, this will be done by a suitably qualified and experienced Arboriculturalist using sharp bypass secateurs/handsaw. Roots larger than 25mm should only be severed following consultation with an Arboriculturalist as such roots might be essential to the trees health and stability. Any exposed roots should be immediately wrapped or covered to prevent desiccation. Any wrapping should be removed prior to backfilling.

Site Monitoring

36. All site monitoring will be undertaken by a suitably qualified and experienced Arboriculturalist. Key operational points will be agreed in writing with the client and LPA prior to commencement of works. Typically, these will include;

    - Remedial tree works
    - Installation of protective fences
    - Installation of site facilities
    - Demolition works
    - Installation of services
    - Removal of protective fences
    - Landscaping within RPA's
    - Site completion

37. Monitoring will be undertaken at intervals requested by the LPA. A checklist will be completed and a copy will be retained by the Site Manager with a copy sent to the LPA within 5 working days.

38. Any defects requiring attention will be notified to the Site Manager and Client (copied to the LPA by e-mail). Any emergencies will be notified to the Client and LPA by phone.

39. Day to day site supervision will be the responsibility of the Site Manager. They will be aware of the tree protection measures and significant steps in the development process which have arboricultural implications. To ensure compliance the Site Manager will undertake a site briefing with the retained Arboriculturalist before the commencement of works.

40. A final sign off visit will be carried out at the end of the development and a formal letter sent both to the client and the LPA to indicate the end of the monitoring period.

Where responsibilities lie

41. It will be the responsibility of the Site Manager to ensure that the AMS is adhered to at all times by site operatives, sub contractors and hauliers during the construction process.

42. Should any problems arise the Site Manager will immediately inform the arboricultural consultant who will assess the situation and make recommendations accordingly. If modifications to the AMS are proposed the arboricultural consultant will immediately advise the local authority arboricultural officer.

Erection and Location of Protective Fencing

43. All protective fences are to be erected, in accordance with the Tree Protection Plan (TPP – Appendix c) and BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations*, prior to any development works on site. This will include demolition works.

44. The specification for the protective fencing (in blue on the TPP) will comply with Figure 2 in BS 5837:2012 and be mounted on a horizontal and vertical framework of scaffold poles made fast in the ground. Panels of weldmesh or 20mm exterior plywood shall be fixed to the framework with wire or scaffold clamps.

45. **All fences will not be moved without the express permission of the local authority Arboricultural Officer.**

46. All site operatives will be made fully aware of the function of the protective fencing and its importance in the construction process as part of their site induction. All weather notices will be placed on all the protective fencing stating words such as – "Construction Exclusion Zone – Keep Out".

47. The Construction Exclusion Zone (CEZ) shall remain sacrosanct throughout the entire development process. No access will be permitted within the permanently fenced areas. Ground levels will not be changed within them and existing vegetation and topsoil will remain undisturbed.

48. The street tree (T1) shall be protected by the use of timber hoarding. The protective hoarding must be freestanding and not attached to the tree in any manner. It will consist of a vertical and horizontal framed scaffold well braced to resist accidental impact. Either weldmesh panels or hoarding should be securely fixed to the scaffold framework. It should not be possible to move the protective cladding. The hoarding should reach up to a height of at least 3m up the main stem or to the main crown break (whichever is greater).

Surplus Arisings

49. Skips will not be placed within any CEZ or adjacent to any protective fencing and no demolished material will be stockpiled against any protective fencing.

50. No fires shall be lit on site.

Service runs/installation

51. If existing utilities are not to be used, the routing of all the drainage and services needs to be considered from an early stage. This will ensure that any encroachment into the CEZ is avoided or kept to an absolute minimum. If the CEZ cannot be avoided then it will be a contractual requirement that all excavations are undertaken by hand and in strict accordance with the 'National Joint Utility Guidelines (NJUG) Volume 4 – Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to trees' and BS 5837 section 7.7.

Site Deliveries / Storage space

52. All site deliveries are to be made via the designated site entrance and placed outside of the CEZ. Consideration should be given to staggered deliveries to guard against stockpiling on site and the temptation to move protective fences to gain more room.

53. No building materials are to be stored against any protective fences so as to avoid the temptation of moving the fences.

Location of huts, toilets

54. No site huts or toilets will be placed within any CEZ.

Potential effect of slopes

55. Storage and/or mixing of materials which have the potential to spill and contaminate the soil (such as concrete and fuel) will not take place within 10m of any tree shown to be retained.

Use of Herbicides

56. It is not proposed to use any herbicides on the site.

Compaction avoidance and mitigation

57. As mentioned previously, all CEZ's are to be clearly marked on site and will be avoided. If for any reason the CEZ is compromised, it will be the duty of the site supervisor to contact the arboricultural consultant immediately. Remedial measures will be discussed and an agreed course of action implemented in consultation with the local authority arboricultural officer. This may involve the use of soil aeration techniques such as an airspade. Action will be dictated by severity and extent of compaction.

Use of sub-contractors

58. Any sub-contractors will be made fully aware of the AMS and the importance of the CEZ as a part of their site induction by the site supervisor.

Fence removal

59. The protective fences shall be the last item removed from site prior to the implementation of the soft landscaping.

Final Inspection

60. Prior to handover, following the completion of the development an Arboriculturalist will inspect the trees on site to check for any indications of accidental damage or change in the condition of any tree.

61. A schedule of remedial works will be drawn up to ensure that there are no outstanding tree work issues prior to handover.

Remedial tree works

62. Any tree works must be undertaken in accordance with BS 3998 – 2010 Tree Work – Recommendations and only once the necessary procedure has been undertaken with the Local Authority.

63. Under the Wildlife and Countryside Act 1981(Section 1) it is an offence to take damage or destroy the nest of any wild bird while that nest is in use or being built. Planning consent for a development does not provide a defence against prosecution under this act. Trees and scrub are likely to contain nesting birds between 1 March and 31 July. In order not to contravene the Wildlife and Countryside Act 1981 the timing of the tree surgery works should avoid the bird nesting season (March – May).

64. Under the Wildlife & Countryside Act 1981, The Countryside Rights of Way Act 2000 and The Conservation Regulations 1994 (known as the Habitats Directive) it is an offence to:

    - Intentionally kill, injure or take a bat.
    - Possess or control a live or dead bat, any part of a bat, or anything derived from a bat.
    - Intentionally or recklessly damage, destroy or obstruct access to any place that a bat uses for shelter or protection.
    - Intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection.

65. If a bat roost is suspected please contact the Bat Conservation Trust on 0845 1300 228 or at www.bats.org.uk.

Conclusion

66. Only one tree is to be removed as a direct result of the proposal and that will have no impact on the wider visual amenity whatsoever.

67. It is recommended that a trial excavation be hand dug at the extremities of the lightwell closest to T1. This will determine the presence of any roots and whether any can be safely cut without causing undue harm to the street tree.

68. If the recommendations listed in the AMS and shown on the TPP are adhered to, I see no reason why this development should not be able to proceed without undue pressure on the existing tree cover.

Yours truly,

Dominic Blake PD Arb (RFS) MArbor A
CEO
November 2018

Appendices

a) Survey schedule
b) Tree Constraints Plans (1:150)
c) Tree Protection Plan (1:150)
d) Site Photographs
e) Detail of protective fencing
f) Site monitoring checklist
g) Warning signs

References

- *BS 5837:2012 – Trees in relation to design, demolition and construction – Recommendations*
- *BS 3998:2010 – Tree Works - Recommendations*
- *National Joint Utilities Group (NJUG) Volume 4*

APPENDIX A

BS 5837: 2012
TREE SURVEY

Advanced Tree Services

Arboricultural Survey – Definitions

Hgt	Tree Height (height in metres, measured with a clinometer)
SD	Stem diameter at 1.5 metres above ground level (in millimetres)
N-E-S-W	Branch spread taken at four compass points (in metres)
Crown clearance	Height of crown clearance above adjacent ground level (in metres)
Life Stage	**Y**- Young **SM** – Middle Aged **M** – Mature **OM** – Over Mature **V** – Veteran
P.Cond	Physiological condition **G** – Good **F** – Fair **P** – Poor **D** - Dead
S.Cond	Structural condition - General comment on safety of tree
Radius	Root Protection radius (m)
RPA	Root protection area (m^2)
ERC	Estimated remaining contribution in years
Category grading	Trees are categorized in accordance with the cascade chart given as Table 1 in B.S.5837:2012. **A -** High quality & value (40 yrs+) **B -** Moderate quality & value (20 yrs+) **C -** Low quality & value (10 yrs+) **U** – Those 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

(NB. Any value suffixed with'#' is an estimated value)

ADVANCED TREE SERVICES

Table 2 - BS 5837:2012 - Trees in Relation to design, demolition and construction - Recommendations - Cascade chart for tree quality assessment

TREES FOR REMOVAL				
Category and definition	Criteria			Identification on plan
Category U Those in such a condition that any existing value would be lost within 10 years and which should in the current context, be removed for reasons of sound arboricultural management	Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other U category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). Trees that are dead or are showing signs of significant, immediate and irreversible overall decline. Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality. NOTE:- Category U trees can have existing or potential conservation value which it might be desirable to preserve.			**RED**
TREES TO BE CONSIDERED FOR RETENTION				
	Criteria - Subcategories			Identification on plan
Category and definition	**1 Mainly Arboricultural values**	**2 Mainly landscape values**	**3 Mainly cultural values, including conservation**	
Category A				
Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood pasture)	**GREEN**
Category B				
Trees of moderate quality with an estimated life expectancy of at least 20 years	Trees that might be included in category A but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and storm damage), such that are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation.	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occuring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	**BLUE**
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 150mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands but without this conferring on them significantly greater collective landscape value and/or trees offering low or only temporary / transient lanscpe benefits	Trees with no material conservation or other cultural value	**GREY**

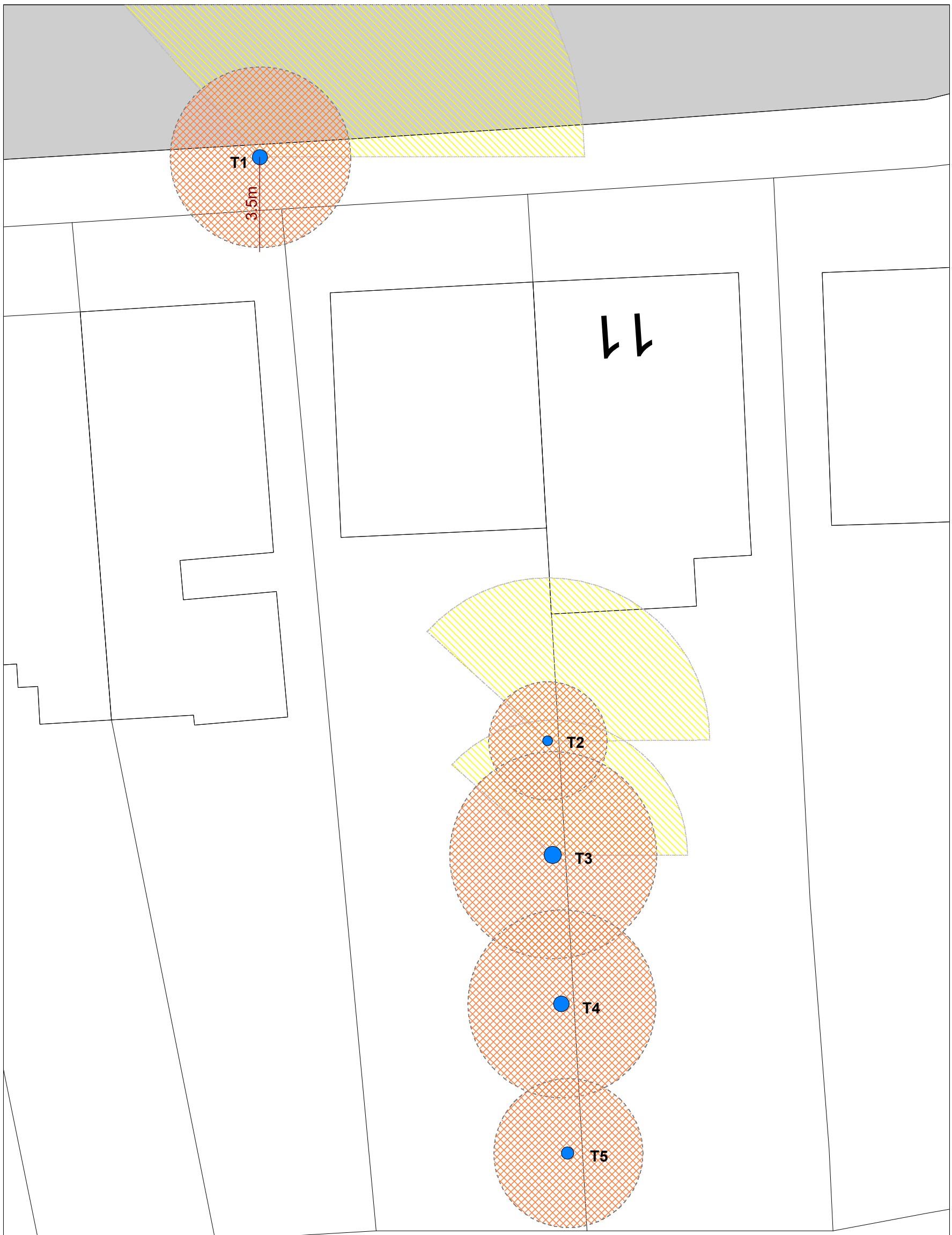
Site: 9 Nassington Road NW3
Client: Mr M Branchmore
Date of Survey: 31/10/2018
Tagged: No
Surveyor: DB
Weather: Clear, dry.

ADVANCED TREE SERVICES
TREE SURVEY SCHEDULE

Tree ID	Species	Height (m)	SD (mm)	Crown Spread (N)	Crown Spread (E)	Crown Spread (S)	Crown Spread (W)	Age Class	P.Cond	Structural Condition	Radius	RPA	Sq.Sides	ERC	Category Grading	Category Criteria	Works in the interests of Health and Safety
T1	Silver Birch	12	280	5	4	3.5	5	Mature	**Good**	Good. Bark wound on south side of main stem at 1.2m	3	35	6	10-20yrs	B	1	No works required
T2	Pear	6	180	2	2	2	2	Mature	**Good**	Fair. Heavily reduced in the past. Not good form overall.	2	15	4	10-20yrs	B	1	No works required
T3	Pear	5	320	2.5	1	2	2	Mature	**Good**	Fair. Heavily reduced in the past. Not good form overall.	4	46	7	10-20yrs	B	1	No works required
T4	Apple	6	290	2.5	1	2	2	Mature	**Good**	Fair. Heavily reduced in the past. Not good form overall.	3	38	6	10-20yrs	B	1	No works required
T5	Apple	6	230	2	1	2	1	Mature	**Good**	Fair. Heavily reduced in the past. Not good form overall.	3	24	5	10-20yrs	B	1	No works required

APPENDIX B

TREE CONSTRAINTS PLAN



Effect of Shade

Root Protection Area

Category B tree

T1 - Birch (Council owned)
T2 - Pear
T3 - Pear
T4 - Apple
T5 - Apple

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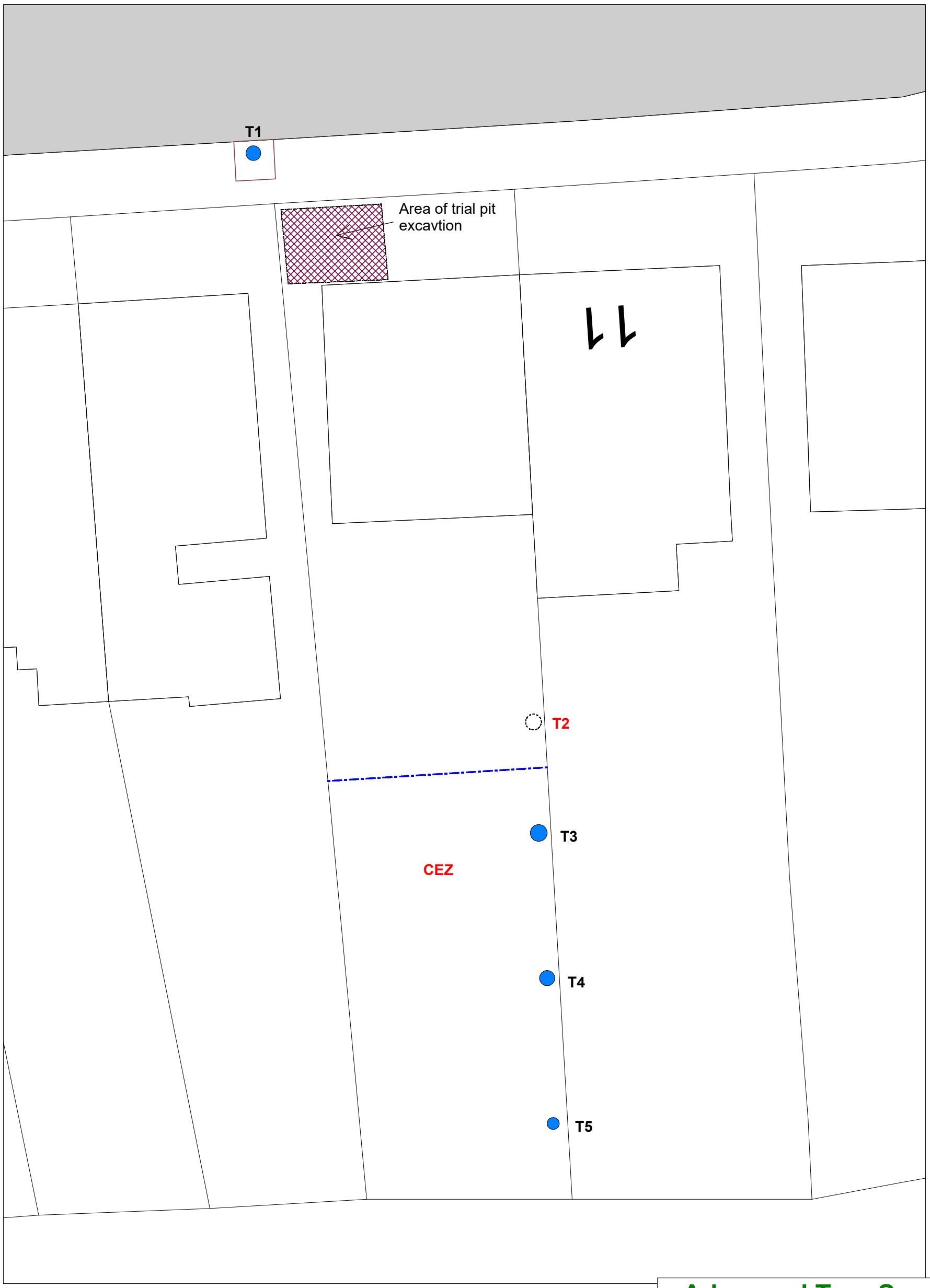
01483 210066

Tree Constraints Plan

SCALE :	DATE :	
1 : 150 @ A3	07/11/2018	N
MAP FILENAME : 9 Nassington Road TCP.mpd		

APPENDIX C

TREE PROTECTION PLAN



KEY

Timber Hoarding Around Street Tree

Protective Fence

Tree to remove

T1 - Birch (Council owned)
T2 - Pear (to be removed)
T3 - Pear
T4 - Apple
T5 - Apple

Advanced Tree Services

The Depot, Pixham Lane, Dorking RH4 1PH

01483 210066

Tree Protection Plan

SCALE :	DATE :
1 : 150 @ A3	07/11/2018

MAP FILENAME :
9 Nassington Road TPP.mpd

N

APPENDIX D

SITE PHOTOGRAPHS

9 Nassington Road (31.11.18)

T1 - Birch

T1 in relation to front boundary wall

9 Nassington Road (31.11.18)

T1 in relation to subject property

9 Nassington Road (31.11.18)

Rear of property (T2 – T5 to right of photo)

9 Nassington Road (31.11.18)

T2 – T5 in rear garden

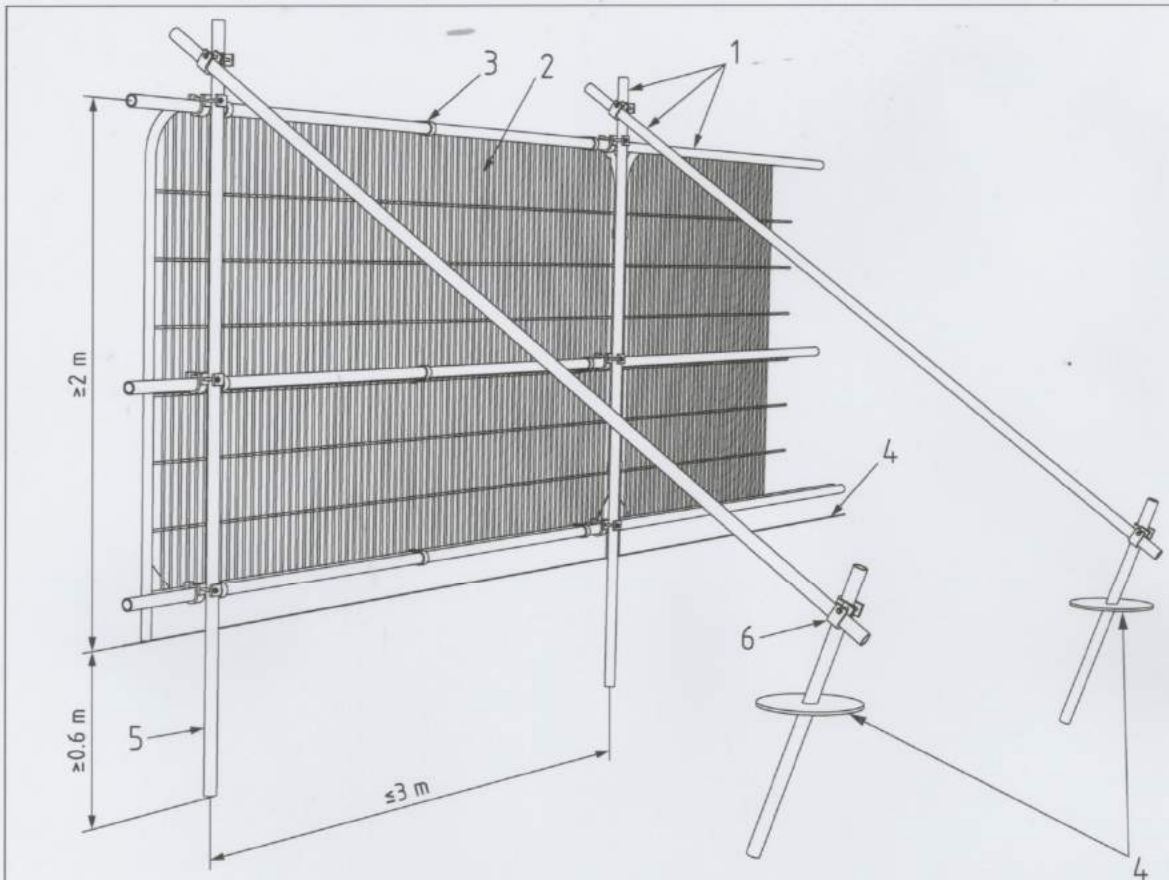
APPENDIX E

DETAIL OF TREE PROTECTION BARRIER

BRITISH STANDARD 5837:2012

Trees in relation to design, demolition and construction - Recommendations

Figure 2 **Default specification for protective barrier**



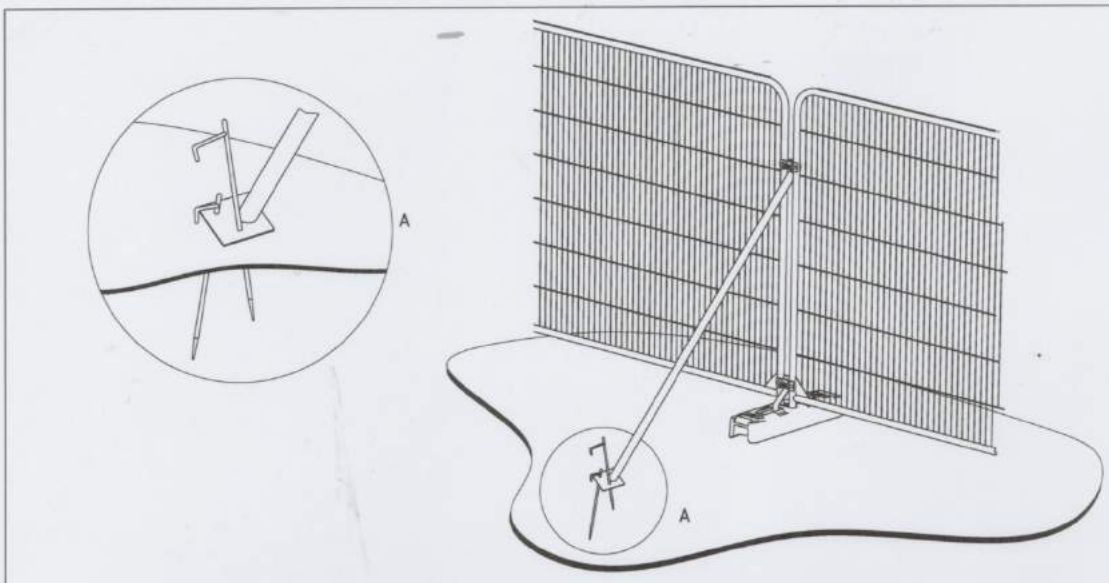
Key

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

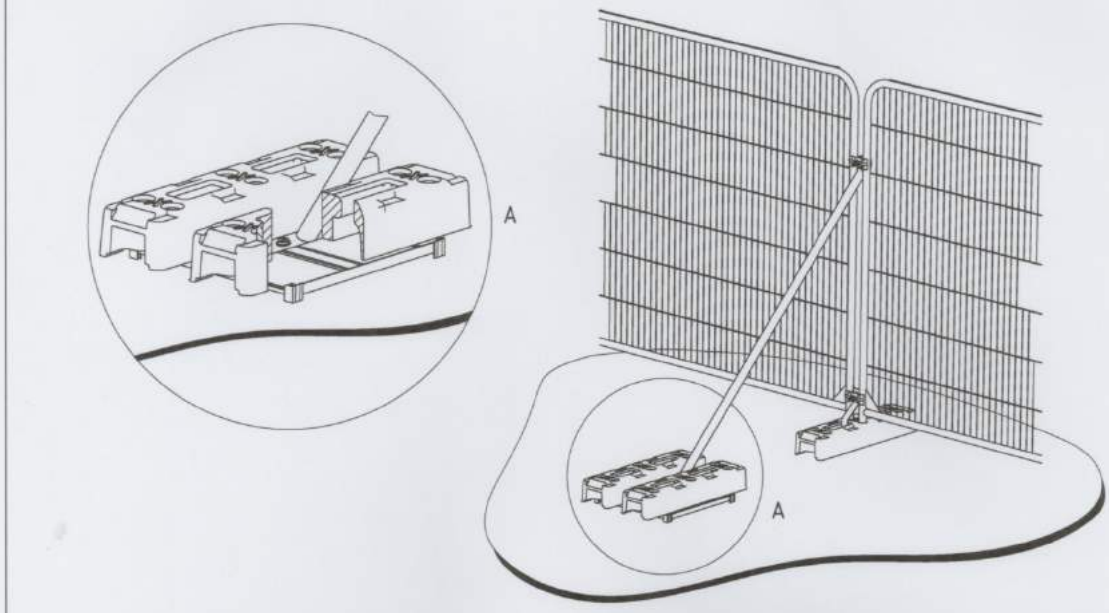
BRITISH STANDARD 5837:2012

Trees in relation to design, demolition and construction - Recommendations

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

Example of Hoarding Round Trees

APPENDIX F

SITE SUPERVISION CHECKLIST

BS 5837:2012 – Trees in Relation to Design, Demolition and Construction – Recommendations

ARBORICULTURAL SITE SUPERVISION - SUMMARY

1. Once retained as Arboriculutral Consultants for a specific development site, all site monitoring will be undertaken by a suitably qualified and experienced Arboriculturalist.

2. Our Arboriculturalist will be present throughout the key operations to ensure compliance with the Arboricultural Method Statement and Tree Protection Plan. Key operational points will be agreed in writing with the client and LPA prior to commencement of works. Typically these will include;

    - Remedial tree works
    - Installation of protective measures (fences and ground)
    - Installation of site facilities
    - Demolition works
    - Installation of services
    - Landscaping within RPA's
    - Site completion

3. Monitoring will be undertaken on a fortnightly basis as well as ongoing communications with the Client, Site Manager and LPA. A checklist will be completed (*appendix a*) and a copy will be retained by the Site Manager with a copy sent to the LPA.

4. Monitoring visits will generally be unannounced. Upon arrival the Arboriculturalist will check in at the site office and inspect the tree protection measures in conjunction with the Site Manager. The Arboriculturalist will also visit the site at pre-determined dates to view specific operational issues (see above).

5. Any defects requiring attention will be notified to the Site Manager and Client (copied to the LPA by e-mail). Any emergencies will be notified to the Client and LPA by phone.

6. Day to day site supervision will be the responsibility of the Site Manager. They will be aware of the tree protection measures and significant steps in the development process which have arboricultural implications. To ensure compliance the Site Manager will undertake a site briefing with the retained Arboriculturalist before the commencement of works.

7. A final sign off visit will be carried out at the end of the development and a formal letter sent both to the client and the LPA to indicate the end of the monitoring period.

www.atstrees.co.uk
info@atstrees.co.uk
Tel: 01483 210066

Arboricultural Monitoring Report Sheet

(BS 5837:2012 Trees in Relation to Design, Demolition and Construction - Recommendations)

Client		**Planning Ref:**	
Planning Authority		**Date of inspection**	

Site Address	
Site Checklist	

Protective fencing in place	
Protective fencing to specification	
Ground protection in place (if applicable)	
Site Foreman briefed	
Tree(s) damaged?	
Remedial works required	

General Comments:

Recommendations:

Report sent to LPA:		**Inspection by:**	

ARB Approved CONTRACTOR

bsi. ISO 9001 Quality Management | ISO 14001 Environmental Management | OHSAS 18001 Occupational Health & Safety Management

CHAS

APPENDIX G

PROTECTIVE FENCE WARNING SIGNS

PROTECTIVE FENCING. THIS FENCING MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND DRAWINGS FOR THIS DEVELOPMENT.

TREE PROTECTION AREA

KEEP OUT !

(TOWN & COUNTRY PLANNING ACT 1990)

TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A TREE PRESERVATION ORDER.

CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION

ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY