Arboricultural Report

Planning and Development

Arboricultural Appraisal and Implications Assessment

Project Name and Address	**9 Maresfield Gardens, London, NW8**		
Prepared for	AS Studio Ltd	**Project Ref**	-
ACS Ref	ha/aiams1/9maresfieldgdns	**Client**	9 Maresfield Gdns
Prepared by	Hal Appleyard Dip. Arb (RFS), F.Arbor. A. MICFor		
Report Date	24th June 2016		

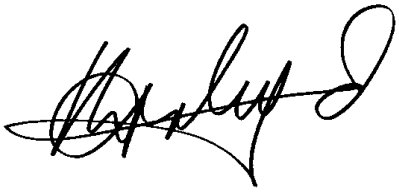
ACS (TREES) Consulting
Urban & rural tree management

Pilgrims Court | 15-17 West Street | Reigate | Surrey | RH2 9BL

Tel: 01737 249351

London – Office Eighty Five | 272 Kensington High Street | London | W8 6ND

Tel: 020 8687 1214



AA Registered Consultant

Institute of Chartered Foresters
Registered Consultant

Hal Appleyard is an Arboricultural Association Registered Consultant and a Chartered Forester

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1.0 Introduction and Scope

1.1 A planning application for the construction of a full basement, with rear extension and alterations to the lower and ground floor to create four new flats, is to be submitted to the Local Planning Authority for consideration.

1.2 The proposed construction is to be undertaken in the vicinity of trees within a conservation area. The implications upon the trees and the methods for tree protection and preservation during ground work, light demolition and construction are set out in this report and which includes a requisite a tree protection plan.

1.3 I have been appointed on behalf of the site owners as a competent and qualified arboricultural consultant to provide this report and to supervise any works that may have the potential to affect the protected and retained trees.

1.4 I have inspected the relevant trees on 24th June 2016. The details are provided accordance with the guidance set out in BS 5837:2012 'Trees in relation to design, demolition and construction- Recommendations' (the BS) and an extract from that guidance is appended herewith.

2.0 The Site and Trees

2.1 The site comprises and existing three storey house with partial basement, which is divided into flats. The forecourt at the front is concrete and amenity garden of lawn exists at the rear. A concrete access drive adjoins the northern boundary and the rear gardens of similar, residential properties adjoin the southern and western boundaries.

Fig. 1 Frontage of 9 Maresfield Gardens

2.2 The BS details of the trees are provided within the tree survey schedule at **Appendix 1** and their corresponding positions are shown on the tree protection plan included at **Appendix 2**.

2.3 The trees relevant to this project include those at the front and rear and which are recorded in the survey. The largest and most obvious trees include the Oak T1, which is off site within No 7 Maresfield Gardens and the Lime, T3 whiich grows in the north-east corner of the site. Both trees appear to be causing some displacement of the boundary wall masonry adjacent to their trunks.

2.4 The frontage is mostly covered with concrete but I would expect roots to have grown in the soil beneath this covering. The Lime appears to be suffering the

effects of a reduced supply of moisture (caused by the impervious surfacing), which is demonstrated by some larger dead branches. The Oak possesses a wood decaying fungus at its base. The tree has been reduced, possibly to address this weakness.

2.5 A middle-aged Sycamore T2, is in poor condition, evidenced by its sparse canopy, small leaves and high amount of dead branches. T4 is a twin-stemmed Sycamore tree (possibly two individuals), which has doubtless developed from a neglected seedling. Its base is positioned within a narrow planting strip, surrounded by a boundary wall and concrete surfaces. The tree is no more than 2.5m distance from the main building and its canopy already encroaches over the roof and gutters. In my view, the tree is best removed, irrespective of any development ambitions.

Fig. 2 The Sycamore T4 is arrowed and too close the building. The presence of other, better trees make T4 subordinate in the landscape.

2.6 A mature Sweet Bay (T5) grows in neighbouring land to the north of the site. Its canopy branches have been permitted to grow over the boundary to and should be pruned back, as they encroach unreasonably now. A mature Lime T6, also grows off site. It is a reasonable landscape feature but too remote from excavations to be influenced by the proposals in this case.

2.7 A small self-seeded Ash sapling, T7 and the Copper Beech, T8, can be well protected from any excavations and construction but it is worth noting that the

Copper Beech appears to have a poor rooting structure, which may well have reduced the tree's effective anchorage. Some size reduction pruning is likely to be prudent, in order to reduce wind purchase in stormy weather. The boundary wall has some quite large cracks in it also, which may be attributed to the tree in some way.

2.8 With reference to the literature[1,2,3,5] and with empirical knowledge, Lime species are well reported to be tolerant to some root loss and disturbance during construction.

1. Matheny. N, Clark. J. R, 1998. '*Trees and development; A technical guide to the preservation of trees during land development*'. ISA
2. Costello, L.R, Jones. K. S, 2003. '*Reducing infrastructure damage by roots: A compendium of strategies.*' ISA Western Chapter.
3. Roberts. J, Jackson. N, Smith. M, 2006. '*Tree roots in the built environment*.' TSO DCLG
4. Lindsey, P. Bassuk, N. 1991 *'Specifying soil volumes to meet the water needs of mature urban street trees and trees in containers'*. Journal of Arboriculture vol. 17 No 6.
5. Harris et al, 1999 *'Arboriculture, Integrated Management of Trees, Shrubs and Vines'* Third Edition Prentice Hall

Proposed Construction and associated works

2.7 The proposal involves the construction of a lower ground floor extension and associated lightwells and stairways. This proposal includes the removal of T4.

2.8 Whilst the roots of the frontage trees (T1-T3) are effectively protected from site storage and potential soil compaction by the presence of the concrete surfacing, I have recommended installing tree protection hoarding around T3 as a precaution against mechanical impacts and damage upon the tree's trunk.

2.8 The proposed construction of the lightwell at the front, could potentially encounter roots from T3. I have, as a consequence recommended that a supervised, manual tree root assessment dig (breaking out the concrete with hand held breakers only) in the first instance, in order to assess the quantity and type of any roots that may have extended to this location. Any roots will be pruned back carefully and professionally in advance of the main excavations being completed.

Table 1 **Proposed Tree Works**

Tree Works (Spec.)	Tree Nos	Visual Landscape Impact of Works*	Available Replacement Planting(Y/N)	Comments
Fell (Sp6)	T4	Low	Y	Subordinate tree growing in a poor location; best removed
Crown lift to 3m and Crown Clean (Sp4 & Sp3)	T3	None	-	General tree management; enable installation of tree protection
Crown clean (Sp3)	T2	None	-	General tree improvement pruning
Root exposure and treatment (Sp8)	T3	None		
Total		Low		

*This is a preliminary visual appraisal based upon the opinion of the author having inspected the trees in the context of their current surroundings. – None (no change or beneficial impact) Negligible or indiscernible difference to treed landscape; Low – Noticeable but mitigated by retention of other landscape trees and features; Medium – Obvious but temporary alteration to the treed landscape; High – Obvious and permanent alteration to the landscape.

Visual receptors include the public or community at large, residents, visitors or other groups of viewers together with the visual amenity of potentially affected people.

Specifications for recommended tree works:

General

All work is to conform to BS 3998:2010 'Tree work – Recommendations' and with current arboricultural best practice. Tree works are to be undertaken by a professional and specialist arboricultural contractor, who carries the appropriate experience and insurance cover, equipment and PPE. All works and processes are to comply with all relevant Planning, Wildlife, Environmental, Conservation and Health and Safety legislation.

Sp1. Crown reduction will include reducing the height and spread of a tree's canopy (branching structure) whilst retaining the tree's natural tree form (species determined). The amount of reduction is described in linear metres e.g. 2m (from 6m to 4m radial spread) or 3m (from 15m to 12m tree height). Crown reduction work will be undertaken for a specific purpose, which may include containing tree growth in a given location or reducing wind purchase and stress.

Sp2. Part reduction includes pruning back from structures or boundaries and which is normally applied to no more than two sides of a tree's canopy. The amount of pruning is specified in metres. The result form will be even and provide a framework for re-growth in an even form. The extent of pruning will not impinge upon tree condition and seek to preserve so far as possible, the natural outline of the tree, which is species determined. All pruning cuts are to be made to a suitable growing point (secondary shoot) and no inter-nodal cuts are to occur.

Sp2.1 Any branch shortening work, (including as part of crown reduction work) will be conducted by pruning back to a suitable growing point, e.g. a shoot or smaller branch, which can continue to support branch growth.

Sp3. Crown Cleaning involves the removal of all dead wood small and large diameter, stubs and broken branches. Some small, densely arranged shoots (including epicormic shoots) will be thinned out or removed as recommended.

Sp4. Crown lifting includes the removal of the lowest lateral branches and shoots, (which would not result in irrevocable tree injury), to a specific height above ground level measured in metres.

Sp5. Crown thinning involves the removal of sub-lateral (secondary) branches to appropriate branch/shoot unions, removal of dead and damaged (crossing branches) with a view to reducing the crown density by a specified %, normally no higher than 30%.

Sp6. Felling involves the careful removal of a tree to ground level (or other specified height), either in sections or in one unit (straight felling). The method of felling will be suited to the constraints of the site and judged by the competent operator undertaking the task. Removing the stump may be part of the requirements and this will be carried out using a mechanical stump grinder where accessible.

Sp7. Pollarding means the removal of all stems and branches to a given point above ground level. Re-pollarding means removal of all re-growth to but not beyond the point of previous pollarding.

Sp8. Root pruning is to be carried out or supervised by a competent person (arboricultural contractor). Only sharp and specific pruning tools will be used for the root pruning exercise. No roots are to be pruned if it is considered that their loss (or shortening) will adversely impact upon tree condition or anchorage, immediately or in the future. Any exposed roots will be covered with a material to prevent desiccation. All exposed cut root surfaces will be made as small as possible. If possible roots will be pruned back to side shoot.

Table 2 Summary of Implications of Construction on Trees*

Tree Ident.	Landscape Contribution	Implications/Impact	Mitigation measures	Impact Assessment**
T3	High	Pruning to lift canopy Construction within modified root protection area	1. Professional pruning only 2. Manual dig and trial root exercise - supervised	Neutral/Positive
T4	Low	Fell to reduce tree conflicts and enable better construction	1. Retain other better-quality trees	Neutral/Positive

* Main trees selected for comment included above. Refer to previous notes on other trees.
** Negative – adverse impact upon trees and landscape; Neutral – no material impact (negative or positive); Positive – improvement (potential) to tree quality and landscape

3.0 Recommended Tree Protection Methods

3.1 In order to afford protection from general construction processes associated with the building of the basement extensions and alterations, it will be necessary to erect a robust tree protection fence (normally wire mesh panels) in the position indicated on the Tree Protection Plan at **Appendix 2** (TPP1_9MG). A recommended example of the type BS grade tree protection fencing is included at **Appendix 3**.

3.2 Preliminary trial trench root assessment work

i) First mark out the area to be manually excavated with marker spray paint (refer to TPP)
ii) Using hand-held tools, remove the existing surfaces e.g. concrete
iii) Using the hand tools and compressed air (Air Spade) if necessary, remove the soil from the trial trench to a depth of min. 1000mm. The width of the pit should be sufficient to for one person work in safely. All roots over 20mm diameter should be retained for inspection.
iv) Place the spoil beyond the RPA of the tree in question.
v) Arboricultural supervisor will inspect the roots/soil and advise upon root pruning. Any root pruning will carried out using sharp and specialised pruning tools (not spades or mattocks). Pruning will ensure that no splits or tears occur and that the pruning wound is made as small as possible.
vi) The tree in question is to be monitored for condition and any changes are to be noted and acted upon where appropriate.

NOTE: THE APPOINTED ARBORICULTURAL SUPERVISOR IS TO BE CONSULTED BEFORE ANY WORK, EITHER SCHEDULED OR UNSCHEDULED, IS CONSIDERED WITHIN THE EXCLUSION ZONE OR ROOT PROTECTION AREAS OF ANY RETAINED TREE. FAILURE TO DO SO MAY LEAD TO ENFORCEMENT ACTION BY THE LPA.

3.3 In order to ensure that the tree protection measures are implemented effectively, a site monitoring exercise will be undertaken to confirm:

i) The efficacy and accuracy of the fencing and ground protection
ii) The root assessment process

An example of a site record (tree protection) is provided at **Appendix 4**. In this case, the form will be used as confirmation that all practical precautions have been undertaken in accordance with this method statement.

3.4 A copy of this method statement is to be retained on site for the duration of the build process together with a scaled, colour copy of the Tree Protection Plan.

3.5 The details pertaining to tree protection as set out in this method statement, specifically include:

i) erection of tree protection barriers:

ii) lines of communication and incident reporting,

are to be explained to the Site Agent at the pre-commencement site meeting. It will be the responsibility of the Site Agent to ensure that all personnel working on site are aware to the tree protection measures processes. A copy of this method statement is to be retained on site for the duration of the build process together with a scaled, colour copy of the Tree Protection Plan.

3.6 Key times for site specialist supervision include:

1. Completion of agreed/necessary tree works
2. Erection of tree protection fencing
3. Works within RPAs of retained trees
4. Landscaping within RPAs of retained trees

3.7 Effective site monitoring will be undertaken from the outset of the project and at agreed intervals thereafter. The frequency of monitoring may well decrease following the proper installation of all tree protection measures. Below is a recommended programme of arboricultural supervision. (This programme may alter dependent upon site circumstances or by agreement.)

3.8 The process for recording the tree protection measures will involve:

i) Site Agent to contact Arboricultural Supervisor with a minimum of 5 days' notice of any site work commencement.
ii) Arboricultural Supervisor to monitor site to agree tree protection fencing
iii) When all tree protection is installed in accordance with the tree protection plan, the Arboricultural Supervisor is to arrange with LPA tree officer and relevant contractors **the pre-commencement site meeting** in order to agree the tree protection and subsequent works within RPAs of retained trees and importantly the lines of communication between the on-site contractors, the Arboricultural Supervisor and the LPA tree officer and incident reporting,
iv)Arboricultural Supervisor to record all site visits and distribute reports to LPA tree officer and contractors for their records
v)Subsequent to completion, Arboricultural Supervisor to sign-off and complete.
vi) Any incidents resulting in potential tree damage are to be reported in line with the 'Incident Reporting Flow Chart in **Appendix 4**.

Table 3 Preliminary site supervision schedule

Stage	Action	Arboricultural Supervisor (AS) (Required – Y/N)	Notes
1	Pre-commencement meeting*	Y	Site Agent(SA) and LPA tree officer, contractor to attend
2	Tree works	Y	Following completion of tree works
3	Installation of tree protection	Y	PRIOR to ground/demolition works
4	Carry out trial root assessment work and treatment	Y	SA to advise AS prior to commencement
5	Ground works and construction	Y	AS to monitor tree protection at agreed and suitable intervals
6	Remove tree protection fencing/ground protection	N	No tree protection to be removed without prior agreement with the AS
7	Tree planting/landscaping	Y	Brief landscape company & sign off

3.9 The frequency of tree protection monitoring depends upon the nature of the project. In this case, it will be appropriate for the SA to organise with the AS monitoring visits to be twice in the initial 28 days from commencement and thereafter once every 28 days for two months and then by agreement.

Contact List (to be completed **PRIOR** to commencement)

Interested Party	Name	Company/LPA	Contact Number(s)	Comment/ Responsibilities
Site Agent	TBA			Day to day site management; co-ordination of timings; **contact with project Arboriculturist**
Main Contractor	TBA			Legal and administrative running of the project; finance; appointment of and liaison with all project consultants
Arb. Supervisor	TBA			Tree protection and management; dissemination of tree-related information
LPA Tree Officer				Tree protection and enforcement
Site Engineers	TBA			Technical advice and design
Architects				Design

TBA – to be advised

***Pre-commencement means i) before any works including tree felling or pruning and ii) before any ground works or demolition commences and upon completion of the initial installation of the tree protection, including ground protection.**

4.0 Precautions during Landscape Work

4.1 The following steps (both general and site specific), are advisable in relation to implementing any landscape works, which may have the potential to affect retained and or protected trees:

1. Advise arboricultural supervisor of intended time frame of landscape work in advance of commencement.
2. Re-locate existing tree protection fencing/ground protection to enable landscape work to proceed.
3. With bio-degradable spray paint or site pins with plastic tape, mark out the position of the relevant tree root protection areas (RPA) as per the tree protection plan.
4. Within the RPAs, avoid using any mechanical tools or vehicles (e.g. tracked or wheeled machinery).
5. Spread any mulch or top soil manually, with the use of wheel barrows and hand tools. It will be acceptable to use of the back actor of a tracked excavator to spread piled top soil or mulch into the RPAs of protected trees provided the bucket does not come in contact with the ground and that the power unit is positioned outside of the RPAs at all times.
6. Any planting pits are to be excavated manually within the RPAs of any retained trees.
7. Multiple passes within the RPAs along one route, pedestrian and with wheel barrows will require some ground protection to be installed prior to working. Ground protection can be scaffold boards over wood chip for example.
8. A record of the landscape working method is to be made and provided to the Council for their file.
9. Hard landscaping features will be constructed under supervision within the RPA of retained trees and will avoid, where possible, the re-grading of soil.

5.0 General site care (trees)

5.1 No fires will be lit on site.

5.2 No access will be permitted to within the fenced or otherwise protected areas (unless for site accommodation or Authorised agreement) at any stage during construction.

5.3 No materials, equipment or debris will be stored within the fenced areas unless agreed with the arboricultural supervisor.

5.4 Areas for mixing are to be located beyond RPAs of trees and contained to prevent leaching into the soil.

5.5 A copy of this report and the Tree Protection Plan is to remain on site at all times.

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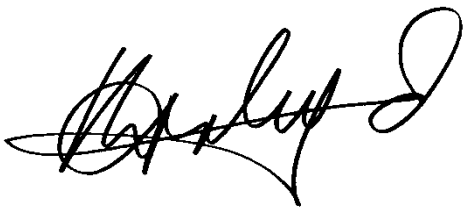
Please note that all relevant planning approvals and approval to planning conditions must first have been issued by the relevant planning authority in order for this report to become effective. We strongly advise that you consult your planning advisors before implementing any recommendations set out in this report.



Hal Appleyard
Date: 24th June 2016

APPENDIX 1

ACS (Trees) Consulting
Tree Management Consultants
T: 020 8687 1214

ACS (Trees) Consulting
Tel: 020 8687 1214

Tree Survey Schedule

Site: 9 Maresfield Gardens

Date: 24th June 2016

Surveyor:H. Appleyard
Ref:ts1/9maresfieldgdns

Tree No.	English Name	Height	Crown Spread	Ground Clearance	Age Class	Stem Diameter	Protection Multiplier	Protection Radius	Growth Vitality	Structural Condition	Landscape Contribution	B.S. Cat	Sub Cat	Useful Life	Observations
T1	Oak, Common	18	4 4 4 4	3/N3	Mature	650e	12	7.8	Normal	Fair	High	B	1,2	20-40	Decay fungi present on trunk/roots (*G. lucidum*) Off-site tree Reduced canopy; trunk displacing boundary wall
T2	Sycamore	12	3 3 3 3	6/W6	Middle Aged	280	12	3.4	Poor	Fair	Low	C	1	10-20	A sparser than normal canopy Dying back Dead wood through out canopy
T3	Lime, Common	20	6 6 6 6	2/E3	Mature	550	12	6.6	Normal	Good	High	B	1,2	20-40	Pollarded historically Deadwood thoughout crown Causing displacement to boundary wall
T4	Sycamore	12	4 3 3 3	4/N4	Young	330	12	4.0	Normal	Good	Low	C	1,2	10-20	Wrong location (best removed) Twin stem (280,220) Self set tree with one stem already removed; branches touching roof
T5	Sweet Bay	6	3 3 3 3	1/S2	Mature	200	12	2.4	Normal	Good	Low	C	1,2	20-40	Off-site tree Garden ornamental Screen tree with over-hanging branches
T6	Lime, Common	11	4 4 4 4	2/S3	Mature	500e	12	6.0	Normal	Good	Medium	B	1,2	20-40	Off-site tree Over hanging branches

Notes:

1. Height describes the approximate height of the tree in meters from ground level.
2. The Crown Spread refers to the crown radius in meters from the stem centre and is shown above on each of the four compass points (i.e. N, E, S, W) clockwise.
3. Ground Clearance is the height in meters of crown clearance above adjacent ground level together with the height and direction of the lowest branch
4. Stem Diameter is the diameter of the stem measured in millimetres at 1.5m from ground level. The diameter may be estimated (e), where access is restricted. An average (a) may be taken for tree groups. A full inspection is always recommended.
5. Protection Multiplier is 12 for single-stemmed trees; for multi-stemmed a cross-sectional area is calculated to derive the DBH, which in turn is multiplied by 12.
6. Protection Radius is a radial distance measured from the trunk centre and is used to calculate the BS RPA.
7. Growth Vitality - Normal growth, Moderate (below normal), Poor (sparse/weak), Dead (dead or dying tree).
8. Structural Condition - Good (no or only minor defects), Fair (remediable defects), Poor - Major defects present or suspected.
9. Landscape Contribution - High (prominent landscape feature), Medium (visible in landscape), Low (secluded/among other trees).
10. B.S. Cat. refers to British Standard 5837:2012 Table 1 category and refers to tree/group quality and value; 'A' - High, 'B' - Moderate, 'C' - Low, 'U' - Remove or very poor quality.
11. Sub Cat refers to the retention criteria values where 1 is Arboricultural, 2 is Landscape and 3 is Cultural including Conservation/ecological, historic and commemorative.
12. Useful Life is the tree's estimated remaining effective contribution in years.

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Tree Survey Schedule

Site: 9 Maresfield Gardens

Surveyor:H. Appleyard

Date: 24th June 2016

Ref:ts1/9maresfieldgdns

Tree No.	English Name	Height	Crown Spread	Ground Clearance	Age Class	Stem Diameter	Protection Multiplier	Protection Radius	Growth Vitality	Structural Condition	Landscape Contribution	B.S. Cat	Sub Cat	Useful Life	Observations
T7	Ash, Common	6	2 2 2 2	1.5/N2	Young	100	12	1.2	Normal	Good	Low	C	1	>40	Twin stem saplings Self sown
T8	Beech, Copper	12	5 5 4 3	2/N2	Mature	550	12	6.6	Moderate	Poor	Medium	C	1,2	10-20	Root damage south side One-sided form; pruned back south side Causing damage to boundary wall

Notes:

1. Height describes the approximate height of the tree in meters from ground level.
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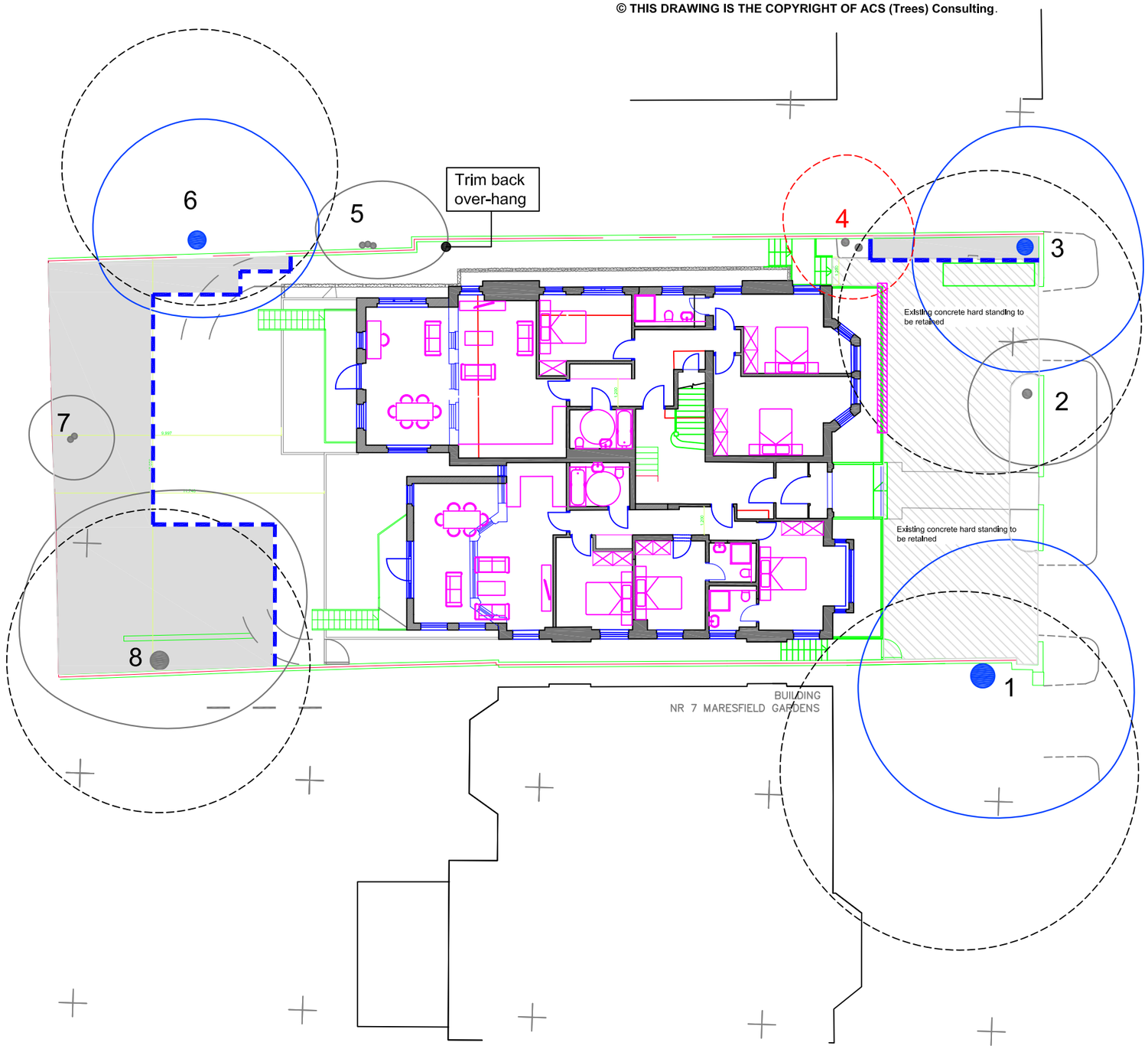
Table 1 **Cascade chart for tree quality assessment**

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those 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	• 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 category U trees (e.g. 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; see **4.5.7**.*			See Table 2
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
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 those that are essential components of groups or 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)	See Table 2
Category B **Trees of moderate quality** with an estimated remaining 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 significant though remediable defects, including unsympathetic past management and storm damage), such that they 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 occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
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 150 mm	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 landscape benefits	Trees with no material conservation or other cultural value	See Table 2

APPENDIX 2

ACS (Trees) Consulting
Tree Management Consultants
T: 020 8687 1214



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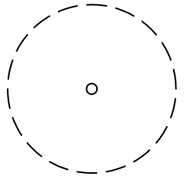
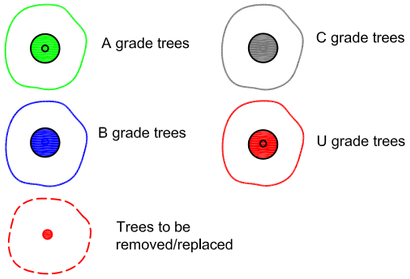


BS Root Protection Area, (RPA) shown uniform (above left) but site features such as roadways, retaining walls and foundations, may modify root patterns and therefore the RPA shape.

Indicative

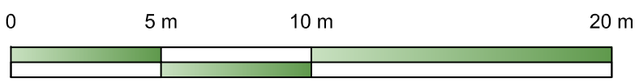


Position of BS-grade tree protection fencing; denotes construction exclusion zone for the duration of the project.

Area identified for hand excavations prior to construction of foundations. All work to be supervised by an arborist to advise upon root treatment where necessary.

Tree Protection Methods to be adopted on site.

1. Undertake pre-commencement site meeting to agree tree protection methods and timings.
2. Carry out any permitted tree works - ask before beginning.
3. Erect and fix in place all tree protection (see Appendix 3).
4. Undertake ground works in accordance with guidance from supervising arborist
5. Clear spoil from site.
6. Construction phase.
7. Remove tree protection.
8. Undertake new landscaping.



Scale: 1:200

Client : AS Studio Ltd

Project : 9 Maresfield Gardens NW8

Title : Tree Protection Plan

Scale : 1:200 A3

Date : June 2016

Dwg No : TPP1_9MG

Rev : -

Do not scale from this drawing. Any discrepancies are to be reported to ACS (Trees) Consulting.
This drawing is to be used when printed to scale & in colour.

ACS (Trees) Consulting
Consultants In the Management of Trees and Woodlands
Pilgrims Court | 15-17 West Street | Reigate | Surrey | RH2 9BL
TEL: 01737 249351 | Mobile: 07770 820 105
ALSO At:
Office Eighty Five | 272 Kensington High Street | London | W8 6ND
TEL: 020 8687 1214
www.acstrees.co.uk

ACS (TREES) Consulting
Urban & rural tree management

APPENDIX 3

ACS (Trees) Consulting
Tree Management Consultants
T: 020 8687 1214

Tree Protection Fencing

Specifications (specifically identified by outline box)

2.4m Hoarding

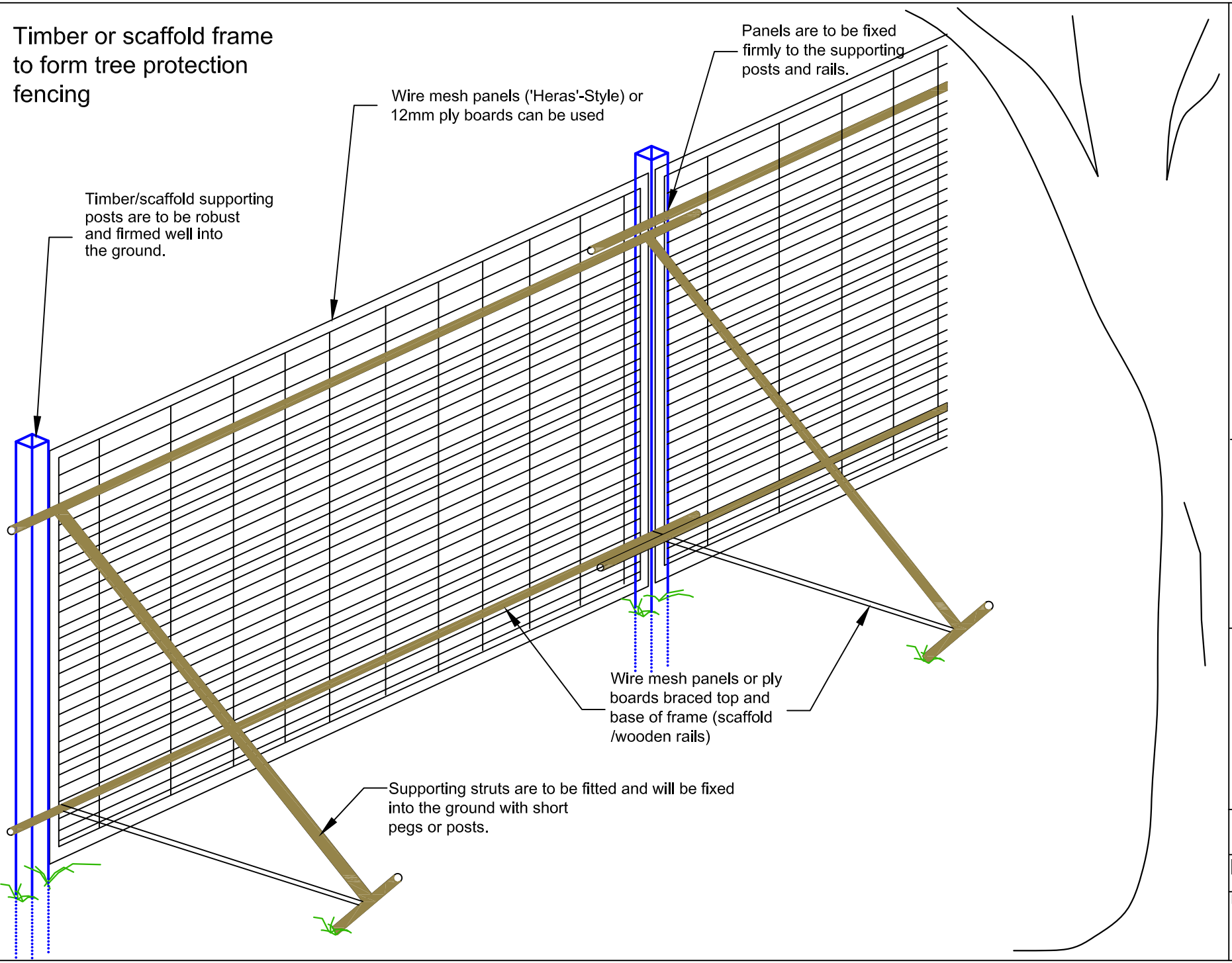
3.0m 100 X 100mm square wooden posts
3 X 38 X 87mm wooden rails affixed to posts
2.4m X 1200 outside grade ply panels (12mm) affixed to rails.
50 X 100mm angled supporting struts affixed internally (quantity as required).

(Supporting posts fixed into position using concrete. All post holes to be hand excavated. Post holes to be no larger than 300 X 300mm.)

Heras Fencing

Heras fencing describes the 2.4m galvanised steel mesh panelled fencing normally supplied with pre-cast concrete bases. **Bases are to be replaced with a fixed frame to which panels are clamped/ firmly fixed.** For extra stability, scaffold poles/4x4 wooden posts are to be firmed into the ground as supporting posts and supporting struts are to be attached at a 45 degree angle on the 'tree-side' of the fencing and fixed into the ground. Supporting posts will be braced at the top and base for added support.

Timber or scaffold frame to form tree protection fencing



ACS Consulting (London)

Tree Management Consultants

Justin Plaza 3
341 London Road
Mitcham
CR4 4BE

T: 020 8687 1214
F: 020 8687 2456
E: info@treebiz.co.uk

Title:

Example of Tree Protection Fencing

Note:

Steel scaffold or timber can be used to support boards or wire mesh panels

Date: Jan. 07

Ref:

Note: Sketch Plan Only - Not to Scale

Tree Protection Fencing

Scaffold Framework supporting ‘Heras’ type panels with signs attached.

Wooden Framework with ‘Heras’ type panels attached.

Tree Management Consultants
T: 020 8687 1214
www.treebiz.co.uk

APPENDIX 4

ACS (Trees) Consulting
Tree Management Consultants
T: 020 8687 1214

ACS Consulting
T: 020 8687 1214

Arboricultural Site Supervision

ACS CONSULTING

Site: 1 Hyde Park, London
Inspected By: H .Appleyard
Client: RPC
Site Agent: Shaun Clark

Date of Inspection: 15/02/2007
Time of Inspection: 3:30pm

Tree Protective Fencing

Tree protection in correct location

Comments/Action
No action at this time

Effective fencing in position

Agreed Construction Exclusion Zone

No debris within construction exclusion zone

Comments/Action
No action at this time

Amendments to Documentation Required

No amendments required

Comments/Action
Building works outside scope of Method Statement

Fencing with signs

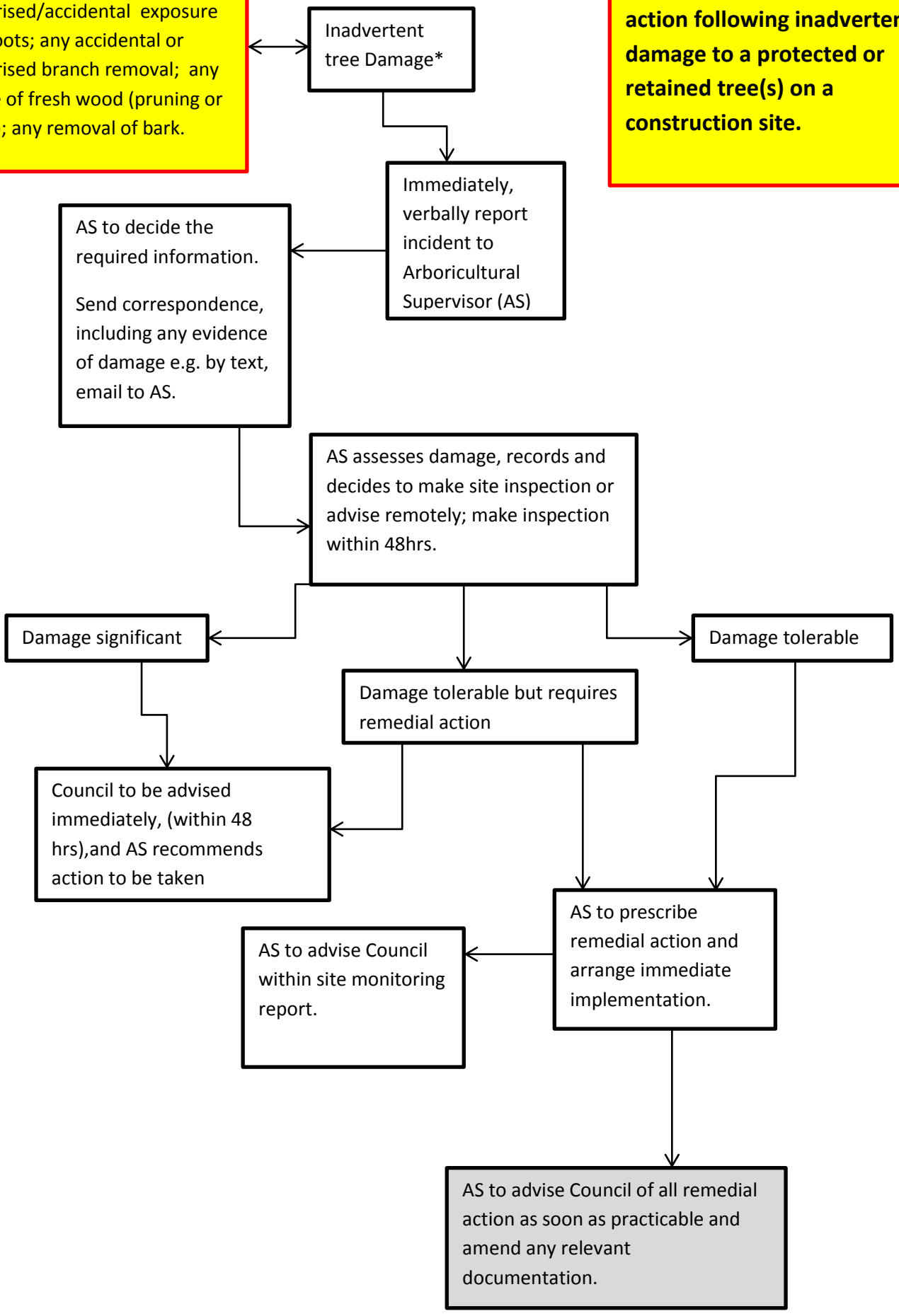
Remedial Works

General Comments

Tree protection and on-site supervsion effective and understood.

Procedure for reporting and action following inadvertent damage to a protected or retained tree(s) on a construction site.

*Tree Damage is defined as: any unauthorised/accidental exposure of tree roots; any accidental or unauthorised branch removal; any exposure of fresh wood (pruning or accident); any removal of bark.



APPENDIX 5

ACS (Trees) Consulting
Tree Management Consultants
T: 020 8687 1214

Brief for Hand-excavated tree root investigation trial pits/trenches

1. Obtain any necessary licences/authorisation for excavation works from the appropriate agency or land owner.

2. Undertake Health and Safety risk assessments **before** proceeding.

3. Obtain details (plan) of exact dimensions and location of proposed trial pits, access details and existing surface types. Trial trenches to be no less than 1.0m deep unless otherwise agreed.

4. Subject to written agreement, arrange access and commence works

5. Mark out the area to be excavated with biodegradable spray paint and lay any ground protection (e.g. 25mm OSB boards over wood chip mulch).

6. Within the identified area, carefully lift existing surfaces and place stones, paving or flagstones, where possible in a retrievable location. Where turf or grass is the surface cut the turf for the entire trial pit area and store in a retrievable location for re-instatement when appropriate.

(Note: where it is necessary to remove concrete or other very hard surfaces, the use of light mechanical or hydraulic hand machinery would normally be acceptable. Provisions for making good of all hard and soft surfaces will be required and agreed prior to commencement).

7. With the use of hand tools in combination with specialised pneumatic tools (e.g. 'Air Spade' or 'Air Knife'), remove the soil, using industrial soil vacuum to expose roots to the agreed depth. Roots in excess in excess of **20mm** are to be retained.

8. Use a hand brush (or compressed air) or similar to clear soil away from encountered roots before proceeding to use spades or forks to remove further soil. **Note: Hand excavations must avoid, so far as reasonably practicable, damage to the root bark or root wood.**

9. Exposed roots are to be wrapped for identification with material. To prevent desiccation (drying out) of all roots, the sides of the trial pit should be covered with a damp material e.g. hessian or similar. No roots are to be left exposed for more than four hours. All exposed trial pits must be covered overnight.

Tree Management Consultants
T: 020 8687 1214
www.acstrees.co.uk

Fig. 1 Examples of Root exposure and root identification

10. All spoil is to be placed upon boards, paving or sheeting in an agreed location, ready for backfilling when appropriate.

11. Exposed trial pits are to be fenced off and covered for safety reasons. All site users are to be made aware of their precise location.

12. Following root exposure – obtain expert advice on any root treatments (e.g. pruning).