

# Arboricultural Report

## Planning and Development

### Arboricultural Appraisal and Implications Assessment

Project Name and Address	79 Drakefell Road, London, SE14		
Prepared for	Skyline Design	Project Ref	-
ACS Ref	ha/aiaams2/19/79drakefellrd	Client	Drakefell Road Ltd
Prepared by	Hal Appleyard Dip. Arb (RFS), F.Arbor. A. MICFor RCArborA		
Report Date	6 <sup>th</sup> August 2019		



Tree Tops | 2 Redwood Mount | Reigate | Surrey | RH2 9NB

T: 01737 244819

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



Institute of  
Chartered Foresters  
Registered Consultant

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

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## Executive Summary

An existing single-storey dwelling is to be demolished in place of two new residential houses. The project will be conducted in the vicinity of some trees in adjacent land. No trees are proposed to be removed. Excavations to seat the proposed buildings into the topography will be required within 5% and 6.5% of two neighbouring Sycamore trees. This report assesses the impact of the proposed demolition and construction and associated excavations upon the trees and landscape as neutral. The extent of potential loss of the root protection area is well within acceptable thresholds for the species and trees of normal vitality. I have noted the orientation of T1 to the proposals in terms of tree shading, and I conclude that there is not a significant difference in terms of the potential for shade and an associated pressure for tree pruning or felling to that of the current residential relationship. T1 is off site and in the ownership and control of others. The prospects of tree loss resulting from shading is therefore negligible.

Provided that standard tree protection measures are implemented from the outset of the project, the trees which contribute to the local landscape will be unharmed and will continue to grow normally.

## 1.0 Introduction and Scope

- 1.1 A planning application for the demolition of the existing dwelling and the construction of two, two-storey family houses with private garden space, is to be submitted for consideration by the Local Planning Authority.
- 1.2 The proposed construction is to be undertaken in the vicinity of trees. The implications upon the trees and the methods for tree protection and preservation

during ground works, 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 The trees have been inspected on 9<sup>th</sup> July 2019. The details are provided in 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. The root protection areas (RPAs) of the relevant trees are indicated upon the plans. Some RPAs may be modified from the standard circle by the presence of structures in the ground e.g. foundations, roads or kerbs.

## 2.0 The Site and Trees

- 2.1 The site comprises an empty single-storey prefabricated former dwelling house. The grounds consist of lawn with former planting and light landscaping of low garden walls. The site is broadly flat, with only modest (300-400mm) differences in land levels across the site. Pedestrian access to the site is obtained from Drakefell Road. I am advised that a right of way for deliveries exists via a vehicular access of Greenstreet Hill to the west. Rear gardens of residential houses adjoin the north and east (Pepys Road). The land within the site is approximately 1m higher than that of the land within the rear gardens of Pepys Road.



Fig. 1 79 Drakefell Road with trees in neighbouring land to the north

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- 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 of note include three mature Sycamore trees, T1-T3 and two Plum trees, T4 and T5. T5 is more commonly referred to as a Damson or Greengage but is none the less a type of Plum.
- 2.4 T1 grows within the land of 85 Drakefell Road to the south of the site. It is most likely to be a tree which has developed from a wild seed as most Sycamores are and consists of four primary stems arising from the base. Access to completely view the condition of the base was limited by the presence of dense ivy growth, which has grown into the canopy. However, the tree seems to be in normal growing condition and its canopy has been reduced in height and spread at least once. New, young growth has developed normally.
- 2.5 T2 and T3 are subordinate Sycamore trees also growing in neighbouring land. Some squirrel damage is evident in T2 by the presence of single dead branches with brown, persistent leaves. T2 appears to have also been pruned to reduce height and spread. Typical regrowth has developed.
- 2.6 The two Plum trees are rooting within the rear gardens of property upon Pepys Road. The land is around 1m lower in these gardens and consequently, rooting of these two trees will have been prevented from growing west into the site by the foundations of the retaining boundary wall. The modified root protection areas of these trees are shown upon the tree protection plan, where roots will be deflected along the face of the foundations and into east into the rear gardens. The canopy branches, in places hang low over the pedestrian access but only some light canopy pruning is necessary to maintain free, unimpeded access along the pathway. Low branches from T1 also extend into the site and I have set out some proposed pruning, to be considered as part of the application in Table 1.

Fig. 2 Over-hanging branches of T4 and T5



Over-hanging branches of T1



### Proposed Construction and associated works

- 2.7 The proposal involves excavations of the land to form a ramped pedestrian access to and from Drakefell Road and to reduce the height of the proposed buildings. Consequently, soil will be removed from the site. I have shown on the tree protection plan that construction/delivery can be afforded via the current vehicular access serving Greenstreet Hill.
- 2.8 In order to ensure the minimum impact upon the retained, neighbouring trees T1 and T2, it will be prudent to first (during the demolition and ground works exercise) to undertake a manual dig along the proposed lines the tree protection hoarding. The extent of the dig will be sufficient to assess the growth of any roots encroaching into the site and to ensure (as a duty of care to the tree owners), that these are pruned back professionally, which will consequently have a negligible impact upon the trees. Following this exercise, the tree protection hoarding can be erected for the duration of the demolition and construction work until final hard and soft landscaping can take place.
- 2.9 With reference to the literature<sup>1,2,3,6</sup> Sycamore species is tolerant to some root loss and disturbance from construction work. The trees in this case will be tolerant to this project by the measures set out above and by restricting encroachment into



the root protection areas (RPAs) to 5% in the case of T1 and 6.5% for T2. In each case, both of these vigorous trees will continue to grow effectively, continuing to use 95% and 93% respectively, of their current RPAs. Within a short period of time, new roots will regenerate to return the rooting compliment to 100%.

- 2.10 The proposals include excavations to lower the level of the pedestrian footpath from Drakefell road adjacent to the eastern boundary wall (Pepys Road). Given that roots of T4 and T5 will extend east into the gardens and not west into the site owing to the barrier caused by the retaining boundary wall there will be no impact from construction upon these trees.
- 2.11 I have considered, too, the impact of the trees upon the future living conditions of new occupants of the proposed buildings in terms of possible shading and an associated pressure to request the removal or significant pruning of trees in order to reduce tree impact and increase natural light to the buildings and gardens. The alterations in the current footprint to that of the proposed layout are modest and consequently there is not a significant difference between the current impact of the trees upon the plot to that of the proposed. I note too that T1, which is positioned south of the development site, is within neighbouring land and within the control of the tree owner. I conclude that there is a negligible risk of tree loss resulting from the potential for shade-induced pressure to fell or prune trees from new occupants of the proposals.



2.12 Subject to the implementation of the tree protection measures from the outset of construction, the trees of importance to the landscape, will not be adversely affected by the proposals.

Fig. 3 Sycamore T1 has co-exists with residents of 79 Drakefell Road for many years. There is no evidence to suggest that this relationship will change in the future.

Table 1 **Proposed/Recommended Tree Works**

Tree Works (Spec.)	Tree Nos	Visual Landscape Impact of Works*	Space Available for Replacement Planting(Y/N)	Comments
<b>Crown lift west side to 3m (Sp4)</b>	T4, T5	None	-	Prune back over-hanging branches to enable reasonable site access
<b>Crown lift to 4m north side (Sp4); crown clean (Sp3)</b>	T1	None	-	To reduce back the over-hang and to improve the ability for future inspections and tree quality
<b>Root exposure and pruning (Sp8)</b>	T1, T2	None	-	Supervised manual dig and pruning as necessary
<b>Total</b>		None		

\*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.

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.

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\*

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Tree Ident.*	Landscape Contribution	Implications /Impact	Mitigation measures	***Tolerance <sup>1,2</sup>	Impact Assessment**
T1,T2	Medium	Excavation within 5% of RPA	1. Erect tree protection and install ground protection 2. Carry out supervised initial manual dig 3. Monitor tree protection	High	Neutral
T4,T5	Medium	Pruning back western branches	Erect hoarding along boundary wall for duration of project (site security)	High	neutral

\* 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

\*\*\* Tolerance to proposed work within extent of RPA, in association with proposed tree protection – High - No adverse impacts; Medium - Temporary reduction in vitality only; Low - Susceptible to longer-term reduction in vitality and likely to require follow-up management.

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

6. Watson, G.W., Costello, L., Scharenbroch, B. & Gilman, E. 2008 *The landscape below ground III* The international society of arboriculture

### 3.0 Recommended Tree Protection Methods

3.1 In order to afford protection from general construction processes associated with the demolition work and the construction of the two houses, it will be necessary to erect robust tree protection barriers in the position indicated on the Tree Protection Plan at **Appendix 2** (TPP1\_DR\_79). A recommended example of the type BS grade tree protection is included at **Appendix 3**. It will be prudent to ensure that all materials and equipment are transported to and from the site via the dedicated 'construction route' as indicated upon the tree protection plan.

3.2 Following erection of the tree protection fencing/barriers and following the completion of the tree works, I recommend installing the ground protection (refer to the TPP) to ensure that roots under the surface are not damaged by compaction

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during regular passing by operatives and light machinery. I have included recommended examples of ground protection at **Appendix 3** also.

3.3 I have recommended that a manual dig exercise is undertaken prior to demolition and main ground works. The methods of manual digging near trees is described with **Appendix 5** but for clarity I have set out the procedure below, which is to be overseen by the appointed arboricultural consultant:

- i) Clearly mark out the area for hand dig (using biodegradable marker paint) (see TPP)
- ii) Use hand tools (forks and spades) to remove the spoil and deposit beyond RPA.
- iii) Identify roots to be retained by brushing or the use of compressed air
- iv) Unless after professional assessment permits pruning, roots in excess of 25mm Ø are to be retained in-situ by manually clearing around (with compressed air for example), wrapping with non-woven geotextile (e.g. Terram), covering with a void former e.g. split, rigid polythene piping.
- v) Unless after professional assessment permits pruning, retention of roots 50mm Ø or more will be by the use of void-formers (see **Appendix 5**).
- vi) Roots <25mm Ø will be pruned using sharp pruning tools ensuring that no splits or tears occur and that the pruning wound is made as small as possible. Roots will be pruned back to a side shoot where possible or to a suitable position.

**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.**

3.4 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 inspection and treatment exercise
- iii) Maintenance of tree and ground protection

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.

- 3.5 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 The details pertaining to tree protection as set out in this method statement, specifically include:
- i) erection of tree protection barriers;
  - ii) the installation of ground protection;
  - iii) 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.
- 3.7 Key times for site supervision include:
- 1. Completion of agreed/necessary tree works
  - 2. Erection of tree protection barriers
  - 3. Installation of ground protection
  - 4. Works within RPAs of retained trees
  - 5. Landscaping
- 3.8 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.)
- 3.9 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 and ground protection	Y	PRIOR to ground/demolition works
4	Initial manual dig exercise and any root treatment	Y	SA to advise AS prior to commencement
5	Ground works and Construction phase	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

- 3.10 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.

Table 4 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; <b>contact with project Arboriculturist</b>
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	TBA	L B Lewisham	0208 314 2089	Tree protection and enforcement
Site Engineers	TBA			Technical advice and design
Architects	Ms C Brandenburg	Skyline Design	020 8653 2882	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.

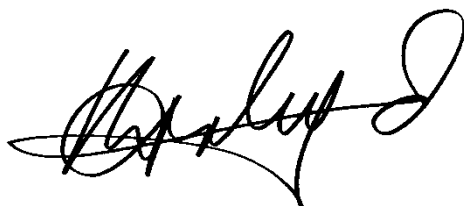
## **5.0 General site care (trees)**

- 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: 6<sup>th</sup> August 2019

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ACS (Trees) Consulting, Head Office: Tee Tops | 2 Redwood Mount | Reigate | Surrey | RH2 9NB | T: 01737 244819  
London Office: Office Eighty Five, 272 Kensington High Street, London, W8 6ND  
[www.acstrees.co.uk](http://www.acstrees.co.uk) | [hal@acstrees.co.uk](mailto:hal@acstrees.co.uk) | Partners H & A Appleyard



## APPENDIX 1

No.	Species	Height	Trunk Dia.	Radial Crown Spread	Crown Clearance	Height to 1st Branch	Life Stage	Physiology	Struct. Condition	Landscape Value	Est. Years	Category	Comments	RPA Radius	RPA m2
T1	Sycamore ( <i>Acer pseudoplatanus</i> )	16m	4 stems @ 350mm	5m	3m	3m W	M	Good	Fair	Medium	20+	B (12)	Multi-stemmed self-set tree; reduced canopy, with dense re-growth; inspection limited by dense ivy.	8.4m	221.7m <sup>2</sup>
T2	Sycamore ( <i>Acer pseudoplatanus</i> )	13m	2 stems @ 250mm(e)	4m	3m	3m N	EM	Good	Fair	Low	20+	C (2)	Off site; reduced in past; self set tree.	4.2m	56.5m <sup>2</sup>
T3	Sycamore ( <i>Acer pseudoplatanus</i> )	11m	300mm(e)	4m	2m	2m W	EM	Good	Fair	Low	20+	C (2)	Off site tree; self set tree; unremarkable.	3.6m	40.7m <sup>2</sup>
T4	Myrobalan plum ( <i>Prunus cerasifera</i> )	8m	200mm(e)	3m	2m	2m N	M	Good	Good	Medium	20+	C (12)	Off site tree with over-hanging branches; base of tree lower than site level.	2.4m	18.1m <sup>2</sup>
T5	Damson ( <i>Prunus domestica subsp. insititia</i> )	8m	200mm(e)	3m	2m	2m W	M	Good	Good	Medium	20+	C (12)	Off site tree; base lower level than site.	2.4m	18.1m <sup>2</sup>

**Notes:**

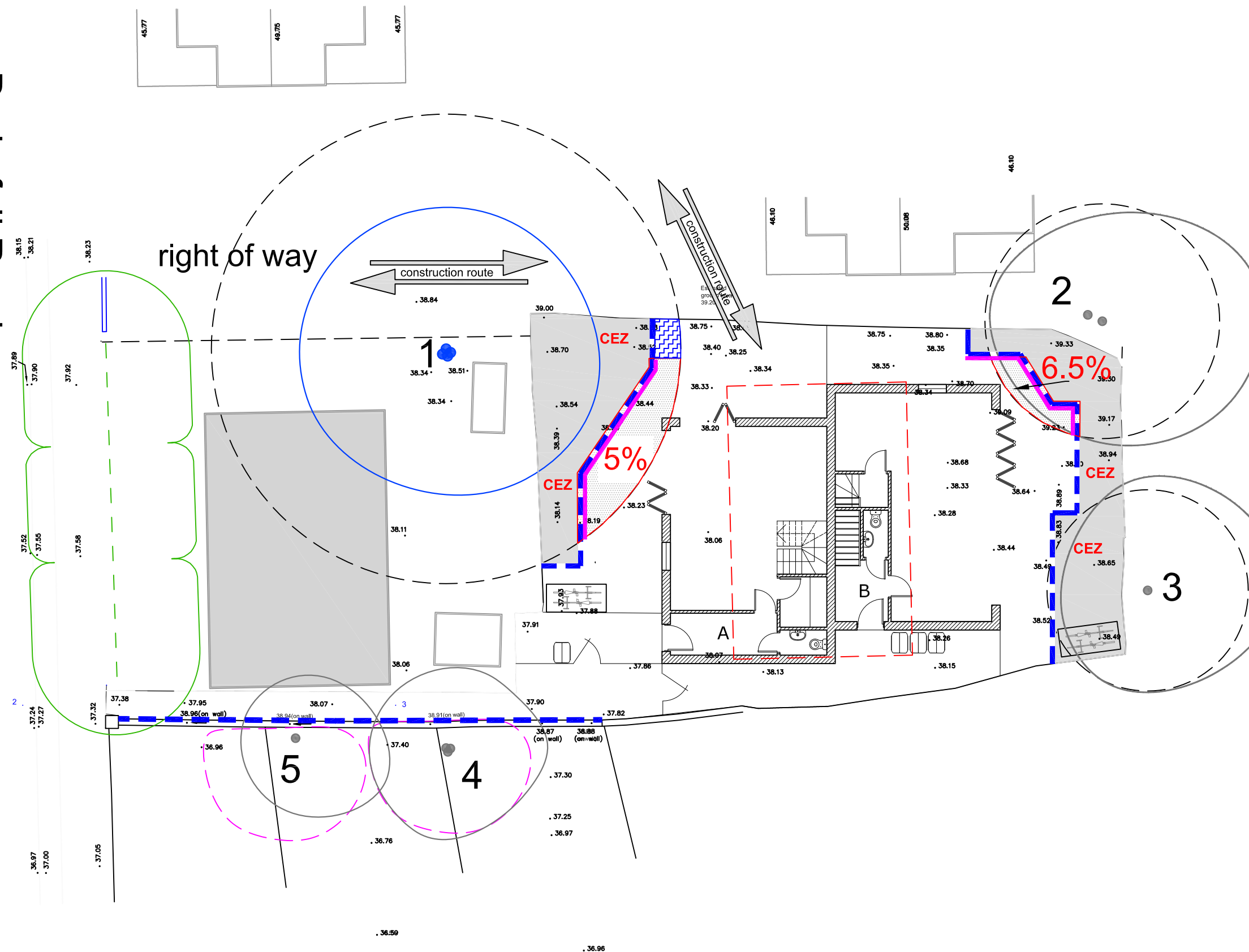
1. No refers to the tree identification number e.g. T1, T2 etc. numbers preceded by 'G' refer to Groups and 'H' refer to Hedges
2. Species refers to the tree name as an English and botanical. (Sometimes the botanical name will not be included)
3. Height describes the approximate height of the tree in meters from ground level.
4. Trunk Diameter is the diameter of the stem/trunk 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. Radial Crown Spread refers to the crown's radius in meters from the stem centre. This dimension is estimated.
6. Crown Clearance is the height in meters of crown clearance above ground level together with the height and direction of the lowest branch
7. Height to first branch is the height in metres from ground level to the first main branch
8. Life stage is the tree's maturity **Young**; **Semi Mature**, **Early Mature**, **Mature**, **Over Mature**, **Veteran**
6. Physiology describes the tree's general vitality as **Good** (normal), **Fair** (sub normal), **Poor** (weak), **Dead**.
8. Structural Condition - **Good** (no or only minor defects), **Fair** (remediable defects), **Poor** - Major defects present or suspected.
9. Landscape Value (Contribution) - **High** (prominent landscape feature), **Medium** (visible in landscape), **Low** (secluded/among other trees).
10. Estimated Years – Estimated remaining useful years: **10yrs+**, **20yrs+**, **40yrs+**
11. Category - refers to the British Standard 5837:2012 Table 1 Category and refers to the tree/group quality and value; **'A' - High**, **'B' - Moderate**, **'C' - Low**, **'U' - Remove or very poor quality**. The sub-category in brackets refers to the retention criteria values where **1** is **Arboricultural**, **2** is **Landscape** and **3** is **Cultural** including **Conservation/ecological, historic and commemorative**.
12. Comments include observations regarding tree condition, setting and function/properties and characteristics
13. RPA radius refers to the radial distance measured in metres from the trunk centre. It is a function of the tree's diameter (s). RPA means root protection area
14. RPA m<sup>2</sup> means the area of the BS standard root protection area derived from the RPA radius.

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)				
<b>Category U</b> 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	<ul style="list-style-type: none"><li>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)</li><li>Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline</li><li>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</li></ul> <p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i></p>			See Table 2
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
<b>Category A</b> 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
<b>Category B</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
<b>Category C</b> 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

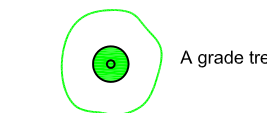
## APPENDIX 2



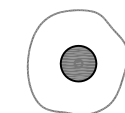


Indicative

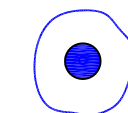
BS Root Protection Area, (RPA) shown uniform (above left) but site features such as roadways, retaining walls and foundations, may modify root patterns and therefore the RPA shape.



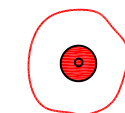
A grade trees



C grade trees



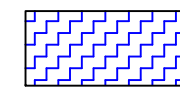
B grade trees



U grade trees



Position of tree protection barriers;  
denotes **C**onstruction **E**xclusion **Z**one for  
the duration of the project.



Area for effective ground protection  
suitable for the project



Location of initial manual dig to min. 750mm depth and root treatment as necessary. Work to be supervised by the project arboriculturist.

Tree Management 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. Install all tree and ground protection (see Appendix 3).
4. Undertake demolition and ground works.
5. Construction phase.
6. Remove tree protection and carry out landscaping.



Scale: 1:150

Client :

Project :  
79 Drakefell Road  
London SE14

**Title :**  
Tree Protection Plan

Scale : 1 : 150  $\Delta$  3

Date : July 2019

Dwg No :  
TPP1 DR 79

Rev :

—

## ACS (Trees) Consulting

### Consultants In the Management of Trees and Woodlands

Tree Tops | Redwood Mount | Relgate | Surrey | RH2 9NB

TEL: 01737 244819 | 07770 820105

ALSO At:

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

E: [info@acstrees.co.uk](mailto:info@acstrees.co.uk)

[www.acstrees.co.uk](http://www.acstrees.co.uk)

**ACS (TREES)**  
Consulting

## Urban & rural tree management

## APPENDIX 3

## Tree Protection Barriers

**Specifications** (specifically identified by outline box and shading)

### 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/posts.  
50 X 100mm angled supporting struts affixed internally (quantity as required).

Supporting posts fixed into position using concrete. All post holes to be manually excavated, retaining all roots of protected trees of 25mm diameter and above. All post holes are to be lined with 1mm gauge polythene before pouring concrete (heavy-duty rubble bags are suitable liners).  
Post holes to be no larger than 300 X 300mm.

### 'Heras' (Style) Fencing

'Heras' fencing describes the 2.4m galvanised steel mesh panelled fencing normally supplied with block bases and block trays. **Block bases are to be used in conjunction with angled scaffold struts only. The use of blocks only is not effective.** For extra barrier vertical stability, scaffold poles set at a 45° angle upon the 'tree-side' of the barrier and fixed to the ground at the end of each panel. Up-right supporting posts will be braced at the top and the base for added support.

## Tree Protection - Hoarding-Style





## Tree Protection Barriers

**Specifications** (specifically identified by outline box and shading)

### 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' (Style) Fencing

'Heras' fencing describes the 2.4m galvanised steel mesh panelled fencing normally supplied with block bases and block trays. **Block bases are to be used in conjunction with angled scaffold struts only. The use of blocks only is not effective.** For extra barrier vertical stability, scaffold poles set at a 45° angle upon the 'tree-side' of the barrier and fixed to the ground at the end of each panel. Up-right supporting posts will be braced at the top and the base for added support.



**Fig. 1 Ground protection – hoarding over sharp sand and wood chip**



Installing heavy-duty OSB boarding over a depth (min. 50mm) of sharp sand and/or wood chip between the tree protection fencing and the foundation line of new development is effective in protecting roots, which grow in the soil beyond the position of the fencing.

**Fig.2 Side-butting scaffold boards and covered and fixed with 20mm OSB boarding**



## APPENDIX 4

# Arboricultural Site Supervision

**Site:** Project Site Address/Name  
**Inspected By:** Arboricultural Supervisor (AS)  
**Client:** Client  
**Site Agent:** Site Agent's Name (SA)

**Date of Inspection:** 24/02/2017  
**Time of Inspection:** 8:15:00

## Tree Protective Fencing

Tree protection in correct location

### **Comments/Action**

Ground protection - temporary concrete and existing paving

## Agreed Construction Exclusion Zone

No debris within construction exclusion zone

### **Comments/Action**



Robust hoarding and temporary concrete ground protection

## Amendments to Documentation Required

No amendments required

### **Comments/Action**



Tree protection Hoarding and ground protection over sharp sand.

## Remedial Works

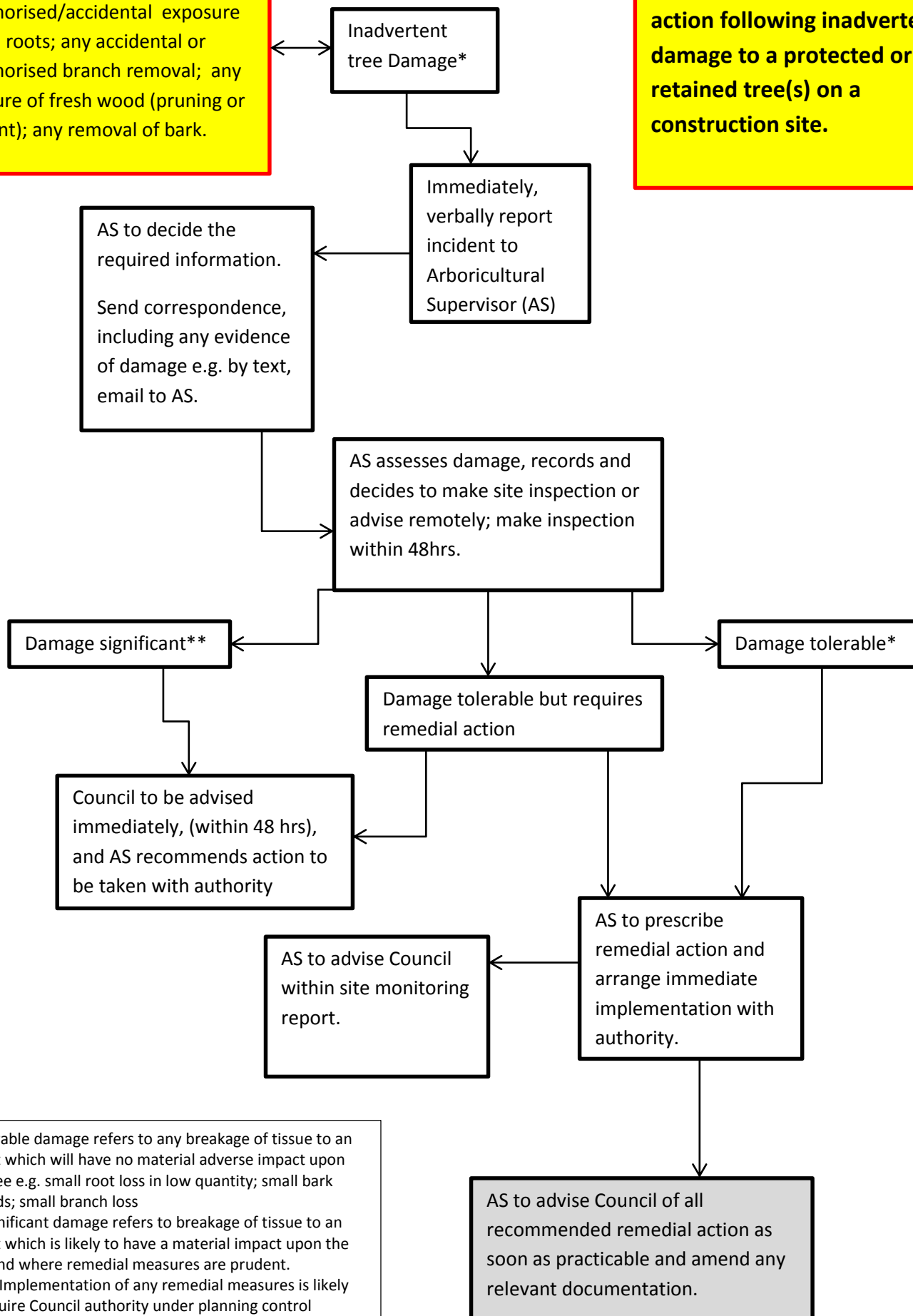
## General Comments

1. Tree protection in position and effective
2. Position of site huts used as tree protection for T7 and T10
3. Temporary concrete used for ground protection for T10
4. Hoarding style tree and ground protection effective and in position

Next Inspection April 2017

**\*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.

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



\*Tolerable damage refers to any breakage of tissue to an extent which will have no material adverse impact upon the tree e.g. small root loss in low quantity; small bark wounds; small branch loss

\*\* Significant damage refers to breakage of tissue to an extent which is likely to have a material impact upon the tree and where remedial measures are prudent.  
Note: Implementation of any remedial measures is likely to require Council authority under planning control legislation, in advance.

## APPENDIX 5



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### Root exposure, pruning and protection measures during construction



Mark out area to be excavated by manually and set ground protection at the side of the excavation area



Expose the roots manually and with compressed air as necessary



Undertake root pruning (<25mmØ) using sharp pruning tools, avoiding tears or splits and making the pruning cut as small as possible. Roots in excess of 25mmØ may be pruned following arboricultural advice. Line the exposed soil with an impervious liner before protecting any retained roots.

**Contd.** Root exposure, pruning and protection measures during construction


Identify the roots for retention and prepare a void-former (root protection 'sleeve').



Wrap the identified roots in hessian before fitting the void-former and sealing with duct tape or similar.



Back-fill the construction area (e.g. footing or base slab) following root protection.