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ARBORICULTURAL REPORT

for :

St Leonard's Court
Palmer Road
East Sheen
SW14

Produced for:
Lapinski Pates Architects

Prepared by:
Hal Appleyard
Dip. Arb. (RFS)., F.Arbor.A.MICFor

Date: 15th May 2007

Reference: ha/ms1/stleonardsct

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Tree Appraisal & Protection Method Statement

Trees at St Leonard's Court, Palmers Road, East Sheen, SW14

Introduction and Scope

This report has been commissioned by Lapinski Pates Architects to; i) assess the trees in accordance with BS 5837:2005 'Trees in relation to construction- Recommendations' (The BS); ii) detail the arboricultural consequences of the proposed project; iii)set out the tree protection measures considered appropriate for the scale and type of construction; iv) develop a tree protection strategy for the duration of the construction including any demolition works.

Reference to 'the proposed scheme' below will mean either the approved scheme for which planning consent has been granted or the scheme under consideration by the Local Planning Authority (LPA).

The trees were inspected on 26th March 2007 and a total of 5 tree records are provided.

This Method Statement sets out the protection measures that will be adopted to ensure effective tree preservation. The basic principles are that; the established fenced and ground protected areas are exclusion zones for the duration of the construction and; excavations within the RPA will be subject to professional assessment (see Note 1).

1.0 Tree Appraisal

1.1 The tree details are presented at **Appendix 1**. The implications of the proposed scheme are detailed in the table below:

Tree Works	Tree No	Visual Landscape Impact of Works	Replacement Planting Possibilities (Y/N)	Comments
Re-Pollard to original pollard points	1 & 2	Medium	N/A	Works designed to safely retain trees for the future.
Fell and remove stump	3	Medium	Y	Tree in hazardous condition – works for safety reasons
Crown thin by 15% Crown Clean	4 & 5	None	N/A	General tree maintenance
Total	5	Medium	2-3	Landscape scheme

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*This is a preliminary visual appraisal based upon the opinion of the author having inspected the trees in the context of their current surroundings. – Negligible (None.) Indiscernible difference to landscape; Low – Noticeable but mitigated by other landscape features; Medium – Obvious but temporary alteration to the landscape; High – Obvious and permanent alteration to the landscape

1.2 **All work is to conform to BS 3998:1989 'Tree Work' (with amendments) and to current arboricultural best practice. Tree works are to be undertaken by a professional and specialist arboricultural contractor, who has the appropriate experience and insurance cover. Commencement of all or some of the proposed works may be subject to written authorisation from the Local Planning Authority (LPA) should planning consent be obtained. We strongly advise that authorisation for any tree works is obtained from the LPA prior to commencement.**

1.3 **In addition, prior to the commencement of any tree works, an ecological assessment of specific trees may be required to ascertain whether protected species (e.g. bats, badgers and invertebrates etc) may be affected.**

1.4 Trees 1 to 3 have been pollarded on several occasions in the past and decay has developed at the points of pollarding in most locations. Subsequent branches from the pollarding work are, in several circumstances, poorly attached to the original stems at the union. Re-pollarding would be prudent work to reduce the potential for branch failure and assist with retaining the trees (1 and 2) for the future in a safe condition.

1.5 Tree No 3 has extensive decay in its trunk and branches and I recommend that it be felled as soon as practicable. Pollarding the tree is not a realistic long-term management regime for this particular individual because further hard pruning will stress the tree further and may result in death. Additionally, the decay seems extensive in the trunk, simply form visual inspection that continued works to this tree, in this residential location, is not arboriculturally sound practice. Its removal and replacement is the more sensible and long term tree management option.

1.6 The Oak No 5 is a tree of squat form and low stature. It would not be unreasonable to replace this tree within a landscape scheme but its replacement is not required as a result of the scheme.

1.7 Following specific requests from the Local Planning Authority's tree officer, hand excavations were undertaken in the locations indicated on the TPP at Appendix 2, to assess the extent of any rooting activity above the bunker, in line with the proposed area of necessary excavations. This was carried out in April 2007. The

soil type is a mix of sand, fills and gravely deposits. The soil is loose and well-draining typical of the area (Geo. Sheet 270). Roots of approximately 20mm Ø and less were encountered and we believe that that the roots are both from Horse Chestnut and Sycamore. In my view, the loss of roots is likely to be tolerated by the trees without lasting adverse effect. This matter and the treatment of these roots with excavations is described at para 2.7, 2.8 and in **Appendix 6**.

1.8 A record of the roots and trial hole excavation work is included at **Appendix 7** for reference.

2.0 Tree Protection

2.1 A tree's BS root protection area (RPA) is based upon a radius measurement taken from the trunk centre and is included with reference to Table 2 of the BS (See **Appendix 2**). Works within a tree's assessed RPA will be subject to guidance set out here, particularly where construction is required within this area but beyond the position of tree protection fencing.

2.2 Effective tree protection will be afforded subject to following a logical sequence of events, which **will follow a pre-commencement site meeting** (see 4.0) **with the LPA representatives and the site agents and any specialist supervisors**:

('S' refers to the stage in order)

S1 Undertake any agreed and/or necessary tree works.

S2 Erect protective fencing and install ground protection

S3 Undertake hand excavations and treat encountered roots appropriately (see below)

S4 Carry out demolition works

S5 Carry out ground works including the excavations for foundations and services

S6 Erect scaffolding and complete construction works

S7 Remove protective fencing and landscaping works (including tree planting).

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2.3 The protection fencing will be erected in the position indicated on the Tree Protection Plan (TPP) at **Appendix 2**.

2.4 The type of fencing and its recommended specification is attached at **Appendix 3**. In this case both, hoarding or fixed Heras fencing will be effective. The positioning of site accommodation can be effective tree protection. The pre-commencement site meeting should be used to address this issue.

2.5 The protection fencing will remain in position for the duration of the construction phases for the apartments, including the removal of the existing structures. Clear signs will be attached to the fencing once erected – suggested wording will be **'Protected Trees – No Access'**. Any alteration to the position of fencing will be agreed with the LPA.

2.6 Where, for construction purposes, it is necessary to position tree protection fencing within the assessed RPA of a tree (s), ground protection will be installed to prevent undue soil compaction from pedestrian and vehicular traffic. The position of the ground protection is indicated on the TPP. At **Appendix 4** are examples of effective ground protection. The type of ground protection will be suitable for the type of proposed traffic, in this case e.g. bound scaffold boards over compressible material will be suitable for pedestrian and light machinery such as wheel barrows.

2.7 The scheme requires that excavations will occur within the BS RPA of trees to be retained. Assessment of the extent of roots in the proposed area for excavations has been undertaken and, subject to the treatment outlined below, it is considered that the likely extent of root loss will be tolerated by the retained trees without lasting adverse effect. This is because the roots that will be lost are likely 20mm Ø or less and in small quantities, rather than abundant. 1 root in Trial pit 1 and 3 in Trial pit 2 were found. Roots of a fibrous nature were also present. Severance of small diameter roots (<5mm Ø) will regenerate quickly in the loose sandy soil type.

2.8 Hand excavations, which are required and agreed to occur within the RPA's of retained trees is likely to encounter roots. Root pruning will be undertaken as described in **Appendix 6**. Specifically in this case however the treatment of roots will be undertaken in the following ways:

i) Hand dig trench along the line of proposed foundation.

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ii) Roots >5mm and <25mm Ø will be pruned using sharp pruning tools. Roots will be pruned back to a side shoot or suitable position, ensuring the exposed face is kept to a minimum.

iii) The 'tree side' of the exposed soil profile will be covered with a Hessian or a similar material, to prevent the potential for root desiccation.

iv) The work will be supervised by a competent person, who can provide advice on the treatment of any roots in excess of 25mm Ø. Initially, any roots of this nature will be retained for inspection.

3.0 Underground Services & Foundations

3.1 The location of new services is indicated upon the TPP and the excavation for their installation where the routing within the precautionary zone of T4, is unavoidable is described in **Appendix 6. This process will be supervised by a competent person.**

3.3 The foundations of the structures located within the BS RPA of tree No 4 will constructed by adopting the following methods:

i) Following hand excavation to enable root treatment and protection, excavations for foundations will be of a traditional strip foundation design.

4.0 Site Supervision - Arboricultural Specialist

4.1 It is important to recognize that the Local Planning Authority Officers (Enforcement Sections) have stringent powers to serve a **Temporary Stop Notice** through recent changes in the legislation governing planning and development. Circular 02/2005 (see Note 2). It is therefore important that works, which may impact upon trees and amenity, are suitably controlled by competent personnel. Identified below are details of a site monitoring process designed to minimize potential risks to retained trees on or off site.

4.2 A **pre-commencement** site meeting, involving representatives from the development, contractors and engineers (as appropriate), site agent and relevant LPA officers, will be undertaken to establish the principal timings and actions.

4.3 So as to ensure that the tree protection measures are implemented, an arboricultural specialist will be appointed to record the condition of the trees to be retained and the position and type of tree protection erected and or installed. The specialist will make a record of visits and which will be retained by the contractor/developer and or left on site for inspection (see **Appendix 5**).

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4.4 Key times for site supervision include:

1. Completion of agreed/necessary tree works
2. Erection of tree protection fencing
3. Installation of ground protection
4. Works within RPA's of retained trees
5. Landscaping

4.5 Site monitoring will be at regular intervals, (beyond that stated above) and at minimum three-week intervals (subject to development scale).

Contact List (to be completed before commencement)

Interested Party	Name	Company/LPA	Contact Number(s)	Comment
Site Agent	TBA	TBA		
Arb. Supervisor	Hal Appleyard	ACS Consulting	020 8687 1214	
LPA Tree Officer	P Cross	L B Richmond	020 8831 6356	
Site Engineer	TBA	TBA		

TBA – To Be advised

5.0 General Site Care

5.1 No fires will be lit on site

5.2 No access will be permitted to within the fenced areas (unless it is used for site accommodation) 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 A copy of this Method Statement and Tree Protection Plan is to remain on site at all times.

Note 1. RPA to be assessed by an arboriculturalist. BS 5837:2005 'Trees in Relation to Construction - Recommendations' paras. 5.2.4 and 11.1.1.

Re-building of existing structures located within the protection distances, such as retaining walls, may require soil excavation and root treatment.

Note 2. The Circular 02/2005 gives guidance on the temporary stop notice provisions in Part 4 of the Planning and Compulsory Purchase Act 2004 which inserted sections 171E to 171H to the Town and Country Planning Act 1990.

APPENDIX 1

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TREE SURVEY SCHEDULE

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Site:St Leonards Court, East Sheen
Date: 26th March 2007

Surveyor: H. Appleyard
Ref: ts1/stleonards

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
1	Chestnut, Horse	13	N6S2E 5W5	3	Mature	550	12	6.6	Normal	Good	High	C	1,2	20-40	Possible soil compaction Trunk wood over paving; 1.3m to wall Possible internal decay north side; Decay in old pollard sites
2	Chestnut, Horse	15	N4S3E 7W5	2.5	Mature	620	12	7.4	Normal	Good	High	C	1,2	20-40	Pollard (Old) Some decay in old pollard sites 1.8m to wall; drawn pollard limbs; open crown form
3	Chestnut, Horse	14	N2S2E 3W2	3.5	Mature	530		0.0	Poor	Poor	Low	R	1	<10	Extensive decay in wounds/cavities Hazardous tree 1.8m from wall
4	Sycamore	17	N5S6E 6W7	2.5	Mature	680	12	8.2	Normal	Good	High	B	1,2	20-40	Reduced tree in past (approx. 5yrs) Dense canopy 1.8m to wall; effective in the landscape
5	Oak, English	8	4	2	Mature	340	12	4.1	Normal	Good	Low	C	1	20-40	Squat form; roots over paving Dense canopy 0.4m to bunker wall

Notes:

1. Height describes the approximate height of the tree measured in meters from ground level.
2. The Crown Spread refers to the crown radius in meters from the stem centre and is expressed as an average of NSEW aspect if symmetrical.
3. Ground Clearance is the height in metres of crown clearance above adjacent ground level.
4. Stem Diameter is the diameter of the stem measured in millimetres at 1.5m from ground level for single stemmed trees or at ground level for multi-stemmed trees. Stem Diameter may be estimated where access is restricted.
5. Protection Multiplier is 12 for single stemmed and 10 for multi-stemmed trees and is the number used to calculate the trees' protection radius and area.
6. Protection Radius is a radial distance from the trunk centre and used to calculate the 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.
9. Landscape Contribution High(Prominent landscape feature); Medium(visible in landscape); Low(secluded/among other trees)
10. B.S. Cat refers to (BS 5837 :2005 Table 1) and refers to tree/group quality and value; 'A' - High; 'B' - Moderate; 'C' - Low; 'R' - Remove.
11. Sub Cat refers to the retention criteria values where 1 is arboricultural, 2 is landscape and 3 is cultural including conservational, historic and commemorative.
12. Useful Life is the tree's estimated remaining contribution in years.

Table 1 — Cascade chart for tree quality assessment

TREES FOR REMOVAL				
Category and definition	**Criteria**			**Identification on plan**
<u>Category R</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 R 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 (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality NOTE Habitat reinstatement may be appropriate (e.g. R category tree used as a bat roost: installation of bat box in nearby tree).			DARK RED
TREES TO BE CONSIDERED FOR RETENTION				
Category and definition	**Criteria — Subcategories**			**Identification on plan**
	1 Mainly arboricultural values	**2 Mainly landscape values**	**3 Mainly cultural values, including conservation**	
<u>Category A</u> **Those of high quality and value:** in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested)	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 which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. avenues or other arboricultural features assessed as groups)	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	LIGHT GREEN
<u>Category B</u> **Those of moderate quality and value:** those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)	Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage)	Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal arboricultural features (e.g. trees of moderate quality within an avenue that includes better, A category specimens), or trees situated mainly internally to the site, therefore individually having little visual impact on the wider locality	Trees with clearly identifiable conservation or other cultural benefits	MID BLUE
<u>Category C</u> **Those of low quality and value:** currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150 mm	Trees not qualifying in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit	Trees with very limited conservation or other cultural benefits	GREY
	NOTE Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150 mm should be considered for relocation.			

APPENDIX 2

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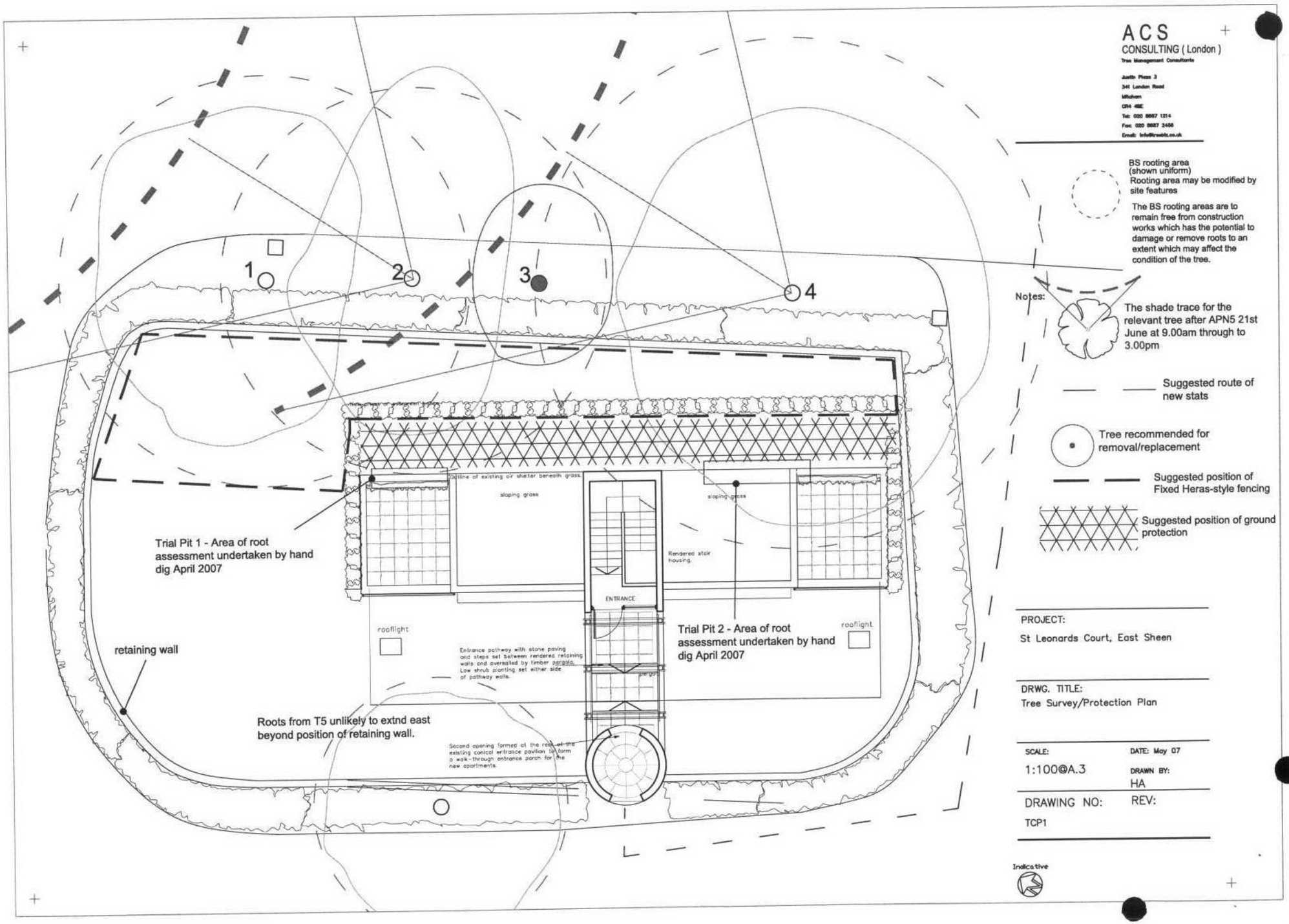

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BS rooting area (shown uniform)
Rooting area may be modified by site features

The BS rooting areas are to remain free from construction works which has the potential to damage or remove roots to an extent which may affect the condition of the tree.

Notes:

The shade trace for the relevant tree after APN5 21st June at 9.00am through to 3.00pm

Suggested route of new stats

Tree recommended for removal/replacement

Suggested position of Fixed Heras-style fencing

Suggested position of ground protection

PROJECT:
St Leonards Court, East Sheen

DRWG. TITLE:
Tree Survey/Protection Plan

SCALE: 1:100@A.3

DATE: May 07

DRAWN BY: HA

DRAWING NO: TCP1

REV:

Indicative

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Tree Protection Fencing

Specifications (specifically identified by outline box)

1.5m (min) Chestnut Paling Fence on Scaffold

Chestnut Paling to be affixed to a scaffold framework comprising two horizontal braces (top and bottom) supported by vertical scaffold posts driven firmly into the ground at 4.0m centres or less. Angled supporting struts are to be affixed 'tree-side' as appropriate.

1.5m (min) Chestnut Paling on Wooden supporting frame

Stakes – 1.8m half round 100mm Ø untreated timber posts @ 1.8m centres (or as directed).

- 2 X 38 X 87mm rails (motorway)
- 1.2m Chestnut Paling will be industrially stapled to the rails

Extra wooden support struts to be affixed at an angle on the innermost side of the fence.

2.4m Hoarding

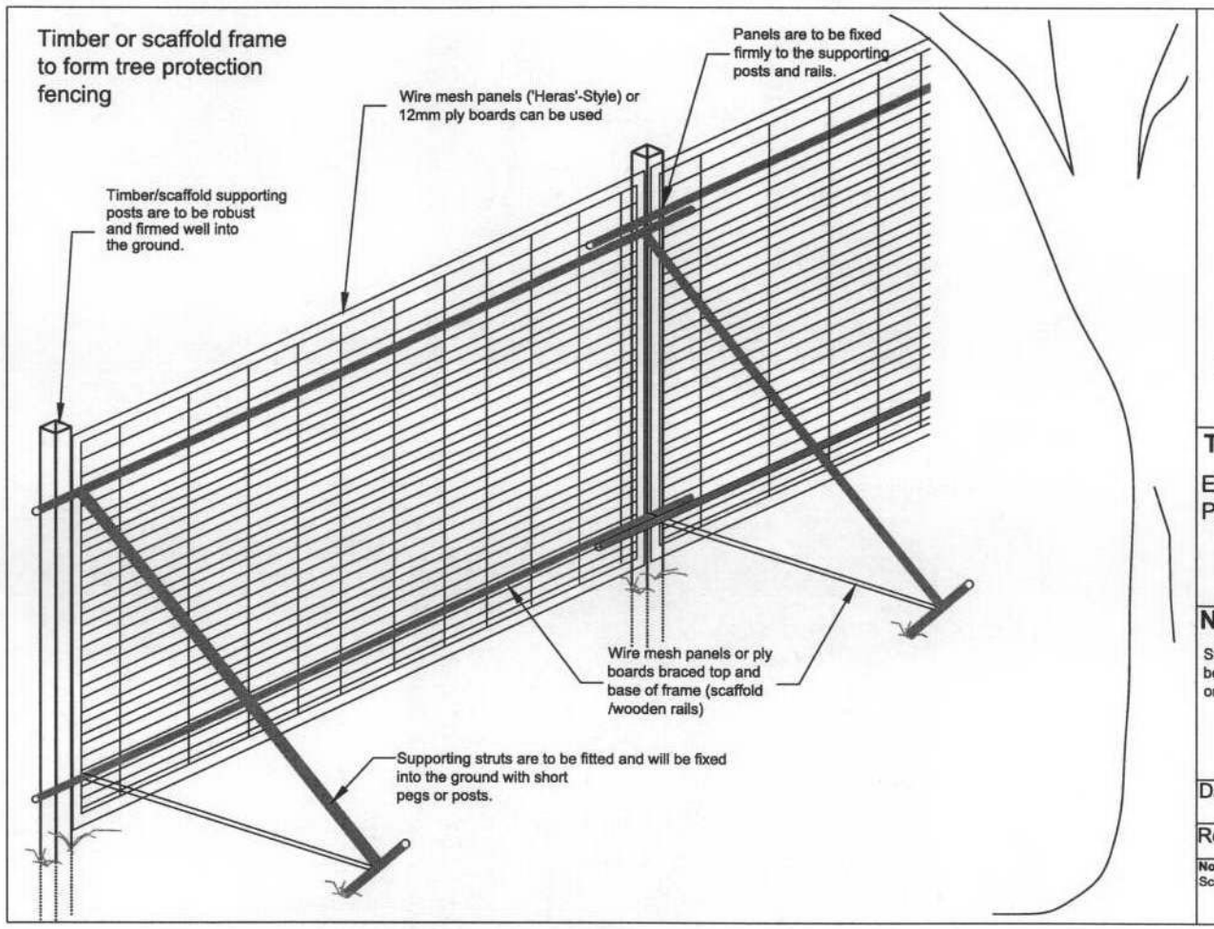
3.0m 100 X 100mm square wooden posts
3 X 38 X 87mm wooden rails affixed to posts
2.4m X 1200 outside grade ply panels (12mm) affixed to rails.
50 X 100mm angled supporting struts affixed internally (quantity as required).

(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



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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

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Example 1.
Heras Fencing with supporting by a scaffold framework fixed (tree side) for extra support.

Example 2.
Hoarding-style fencing with robust wooden posts with supports to ensure minimal movement.

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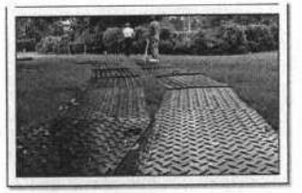

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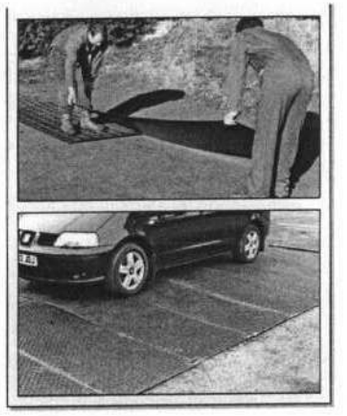
Example of ground protection, which is best laid over 50mm of a compressible material such as woodchips or sharp sand for optimum tree root protection.

WALK TOP - Ideal for car parks and walk ways.



Ground plates can be useful for dissipating loads, at sensitive construction locations.

DOUBLE LINK JOINERS - lock Ground-Guards into one large working platform.

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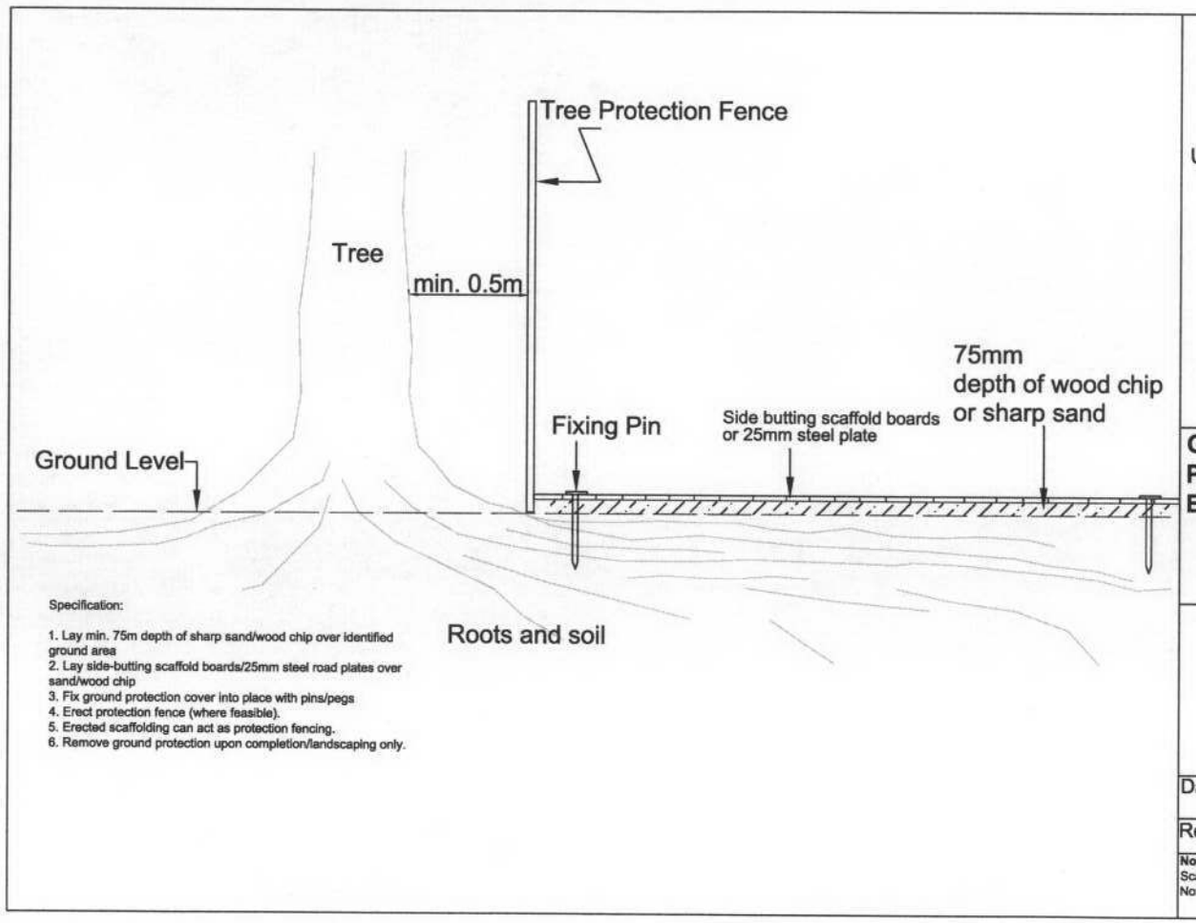

Specification:

1. Lay min. 75m depth of sharp sand/wood chip over identified ground area
2. Lay side-butting scaffold boards/25mm steel road plates over sand/wood chip
3. Fix ground protection cover into place with pins/pegs
4. Erect protection fence (where feasible).
5. Erected scaffolding can act as protection fencing.
6. Remove ground protection upon completion/landscaping only.

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Ground Protection Example

Date:

Ref:

Note: Sketch Plan Only - Not to Scale
Not all site features shown