

16th February 2012

Ref:ha/ms1/44topazgrv

Your Ref:

Mr T Moss
Pembroke
Summit House
Horsecroft Road
The Pinnacles
Harlow
Essex
CM19 5BN

Dear Mr Moss

**Tree Assessment and Protection in relation to Construction at:
44 Topaz Grove, Havant, Hampshire**

Further to my site visit of 1st February 2012, please find attached my arboricultural assessment and method statement as requested to assist with the planning application.

I hope that this is clear and helpful but if I can be of any further assistance, please do not hesitate to contact me.

Yours sincerely



Hal Appleyard
Dip. Arb. (RFS), F.Arbor.A, MICFor.
Arboricultural Association Registered Consultant



 Institute of
Chartered Foresters
Registered Consultant

enc.

cc Mr M Pope

Arboricultural Assessment and Protection Method Statement

Site: 44 Topaz Grove, Havant

Date: 16th February 2012

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

Ref: ha/ms1/44topazgr

Appendices:

1. Tree Survey Schedule (BS5837:2005)
 2. Tree Protection Plan TPP
 3. Recommended example of tree protection fencing
 4. Example of site monitoring record
-

1.0 Introduction and Scope

- 1.1 A planning application for the construction of a single-storey extension to replace an existing conservatory is to be submitted for consideration by the Local Planning Authority (LPA).
- 1.2 The proposed construction is to be undertaken in the vicinity of a protected Oak tree. The implications of the construction works upon the tree are set out here together with methods for tree protection and preservation
- 1.3 I have been appointed by 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 tree.
- 1.4 I have assessed the tree in accordance with the guidance set out in BS 5837:2005 'Trees in relation to construction- Recommendations' (the BS) and an extract from that guidance is appended herewith.

2.0 The Site and Trees

- 2.1 The site comprises an existing two-storey, detached dwelling with a rear conservatory. The conservatory projects out into the rear garden. The rear garden consists mainly of grass with evergreen hedging at the perimeter. The Turkey Oak, which is protected by a TPO ref 1418 1989, grows in the centre of the rear garden.

- 2.2 I have provided the BS details of the tree in the tree survey schedule at **Appendix 1** and its corresponding position is shown on the tree protection plan at included at **Appendix 2**.



The rear conservatory with the Turkey Oak central to the garden.
Arrow shows the location of soil investigations

- 2.3 The Oak tree is mature and comprises two stems arising from a union at around 1m from ground level. The union between the two stems has formed with some bark included, which weakens that union somewhat. I note that the tree has been reduced in size at least once and that new growth has developed quite vigorously. The tree's canopy is dense as a result and no doubt further pruning, at least, will be required.
- 2.4 The existing conservatory has extended into the BS root protection area (RPA), which is an area derived, by a calculation in Table 2 of the BS, from the tree's diameter. Some roots are likely to have been encountered at the time of construction and I could detect no significant adverse impact upon the tree in terms of its condition as a result.
- 2.5 With reference to the literature¹, Oaks have a good to moderate tolerance of root loss resulting from construction works. Clearly, specific circumstances determine

the impacts of construction and in this case, this vigorous tree is likely to be tolerant to some root disturbance, which equates to about 2.5% of the whole RPA. The BS suggests that trees can tolerate up to 20% reduction in the RPA. This proposal falls well within that threshold.

¹Matheny, N., Clark, J.R., 1998 'Trees and Development' ISA

Proposed Construction

2.6 The proposed construction of the garden room extension is to be founded upon a strip footing design. Given the low proportion of RPA taken for construction, I am



of the view that this tree will tolerate excavations, to form these footings and which may require the removal/shortening of a small number of roots. Soil investigations have shown that a very limited number of roots grow in the vicinity of the proposal. The image below reflects the soil profile at the proposed line of the new footing.

Fine roots (circled) exist in the upper soil horizon (to approx. 1m depth) but none that would be directly associated with tree anchorage.

2.7 The local soil is likely to be of a shrinkable nature, apparently having high clay content. It will be prudent to consult a structural engineer in respect of foundation design, where this proposed construction is located within the influencing distance of a mature tree. In this case, the NHBC guidance 'Building near trees' suggests that Turkey Oak falls within the high water demand category and will have a

potential to attain 24m at its mature height. These details, coupled with the soil analysis in terms of shrinkability, will determine foundation design, and which should account for the continued growth of or the removal of the tree.

- 2.8 I have inspected the tree and the proposals and I have reviewed the information supplied in terms of soils and roots. Consequently, I consider that these proposals have taken account of the tree and its safe keeping. I am confident that the Turkey Oak will be preserved for the future with the implementation of the protection measures that I have set out below.

3.0 Recommended Construction Precautions (trees)

- 3.1 In order to afford protection from general construction processes associated with the building of the new garden room extension, it will be prudent to first erect a robust tree protection fence (normally wire mesh panels) in the position indicated on the Tree Protection Plan at **Appendix 2** (TPP1_TG). A recommended example of the type BS grade tree protection fencing is included at **Appendix 3**. It will be necessary to ensure that all materials and equipment are delivered to the construction area via the 'construction access' shown on the TPP1_TG. No other access for machinery or materials is to be used.
- 3.2 In this case, it is appropriate to ensure that access to the garden area, during construction can be achieved and I have recommended that an access point be left available within the tree protection fencing. The barrier/fence is to exclude the storage of materials, equipment and any working within the excluded area.
- 3.3 Following erection of the tree protection fencing, I recommend installing some ground protection (refer to TPP1_TG) to ensure that roots under the surface are not damaged by compaction during regular passing by operatives and light machinery. I have included recommended examples of ground protection at **Appendix 3** also.
- 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

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.

4.0 General site care (trees)

- 4.1 No fires will be lit on site.
- 4.2 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.
- 4.3 No materials, equipment or debris will be stored within the fenced areas unless agreed with the arboricultural supervisor.
- 4.4 Areas for mixing are to be located beyond RPAs of trees and contained to prevent leaching into the soil.
- 4.4 A copy of this report and the Tree Protection Plan is to remain on site at all times.

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Chartered Arboriculturist & Arb. Assoc. Registered Consultant
16th February 2012

APPENDIX 1

Tree Survey Schedule

Site: 44 Topaz Grove, Havant, Hants

Date: 1st February 2012

Surveyor: H. Appleyard

Ref: ts1/44topazgr

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, Turkey	13	4 4 4	4	Mature	800	10	8.0	Normal	Good	Medium	C	1,2	>40	Reduced in past Wrong location (best replaced with more suitable species) Re-growth vigorous; dense canopy;

Notes:

- Height describes the approximate height of the tree in meters from ground level.
- 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.
- Ground Clearance is the height in meters of crown clearance above adjacent ground level.
- Stem Diameter is the diameter of the stem measured in millimetres at 1.5m from ground level or just above ground level for multi stemmed trees. 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.
- Protection Multiplier is 12 for single stemmed and 10 for multi-stemmed trees.

- Protection Radius is a radial distance measured from the trunk centre and is used to calculate the BS RPA.
- Growth Vitality - Normal growth, Moderate (below normal), Poor (sparse/weak), Dead (dead or dying tree).
- Structural Condition - Good (no or only minor defects), Fair (remediable defects), Poor - Major defects present or suspected.
- Landscape Contribution - High (prominent landscape feature), Medium (visible in landscape), Low (secluded/among other trees).
- B.S. Cat. refers to British Standard 5837:2005 Table 1 category and refers to tree/group quality and value: 'A' - High, 'B' - Moderate, 'C' - Low, 'R' - Remove or very poor quality.
- 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.
- Useful Life is the tree's estimated remaining effective contribution in years.

Table 1 — Cascade chart for tree quality assessment

TREES FOR REMOVAL				
Category and definition	Criteria			Identification on plan
Category R 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	
Category A 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
Category B 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
Category C 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.			

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APPENDIX 2

Tree Protection Methods to be adopted on site.

1. Undertake pre-commencement site meeting/discussion to agree tree protection methods and timings.
2. Erect and fix in place all tree protection fencing to produce an effective exclusion zone (see Appendix 3).
3. Install effective ground protection over grassed areas see Tree report Appendix 3.
4. Undertake demolition work and remove all debris from site.
5. Construction phase.
6. Remove fencing and ground protection and re-instatement landscaping.

BS Root Protection Area, (RPA) shown uniform here but site features such as roadways, kerb and foundations, may modify root patterns and therefore the RPA shape

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.

Recommended position of fixed 'Heras' style tree protection fencing.

Recommended area for effective ground protection

Existing patio stonework, effective ground protection.

Access point to garden area (residential use only)

construction access

Line of existing conservatory

Proposed extent of increase of construction equivalent to Approx. 2.5% of RPA for T4.

Tree protection fencing

Temporary ground protection to be installed prior to demolition of the conservatory

T4 Turkey Oak

Leyland Cypress hedging

Project:

44 Topaz Grove
Havant
Hants

Drwg Title:

Tree Protection Plan

1:100@A.3

Date: Feb, 2012

Drawn By:

Drawing No:

Rev:

TPP1_TG

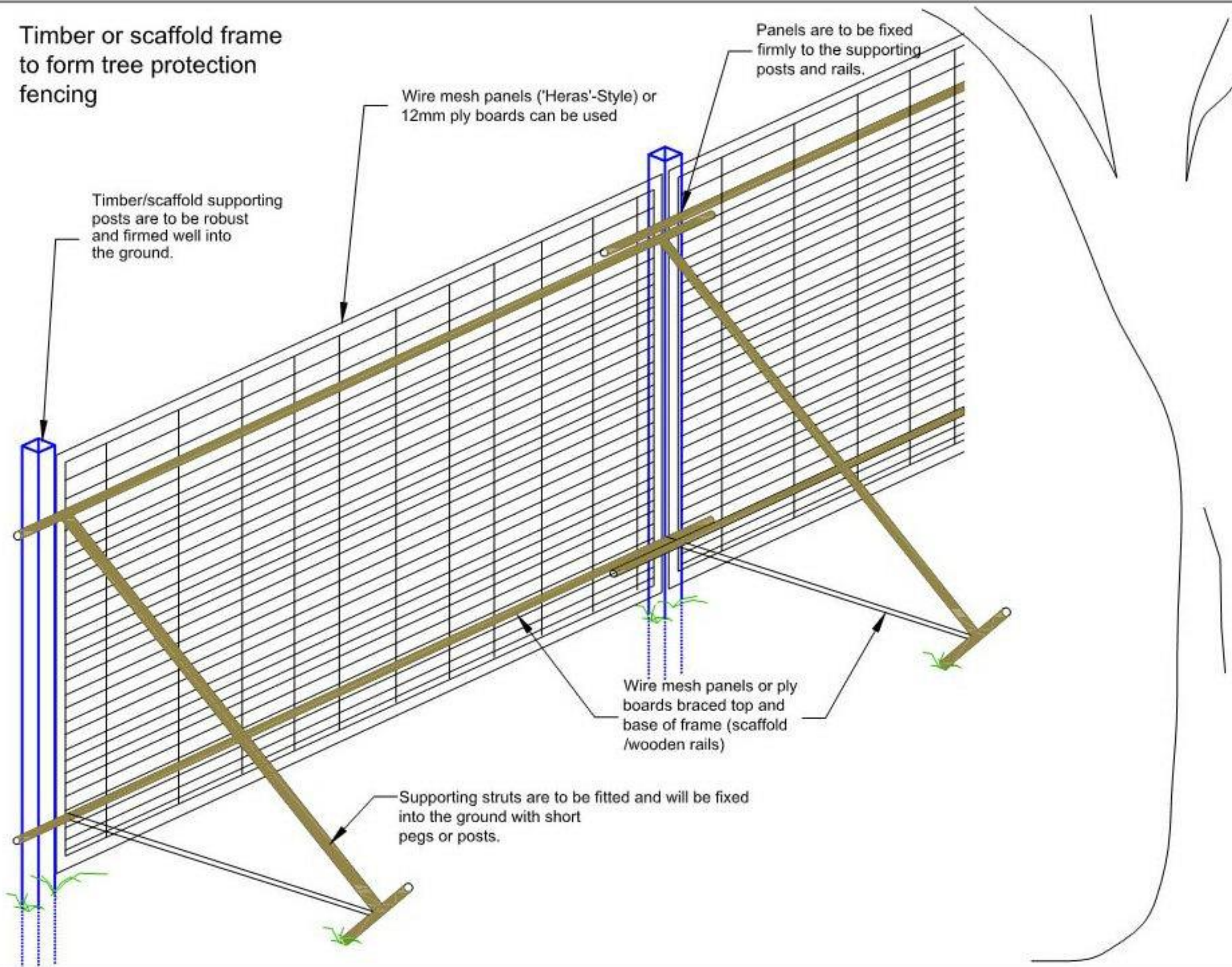
APPENDIX 3

Timber or scaffold frame
to form tree protection
fencing

Wire mesh panels ('Heras'-Style) or
12mm ply boards can be used

Panels are to be fixed
firmly to the supporting
posts and rails.

Timber/scaffold supporting
posts are to be robust
and firmed well into
the ground.



Wire mesh panels or ply
boards braced top and
base of frame (scaffold
/wooden rails)

Supporting struts are to be fitted and will be fixed
into the ground with short
pegs or posts.

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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

Tree Protection Fencing

Scaffold Framework supporting 'Heras' type panels with signs attached.



Wooden Framework with 'Heras' type panels attached.





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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.



OSB boarding fixing scaffold
Boards below can be very effective ground protection for lighter traffic such as pedestrians, wheel-barrow and occasional passes with light dumper vehicles for example.

APPENDIX 4

Arboricultural Site Supervision

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

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

Remedial Works

General Comments

Tree protection and on-site supervision effective and understood.



Effective fencing in position



Fencing with signs