

Modern Arboricultural Services

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17/09/07

Iris Two Ltd
Attn: Mr. Buchmann,
Suite A, St. Peter Port House,
Sausmarez Street,
St. Peter Port,
Guernsey
GY1 3PG

Dear, Mr. Buchmann,

RE: 6-7 Prince Albert Road, London, NW1 7SR

Further to your instructions, please find enclosed the arboricultural pre-development report with regard to the trees growing within the vicinity of the above property.

Should you have any queries please, contact me on the below address.

Yours sincerely



Paul MacQueen
(NCH ARB, ND ARB)

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Pre-development Arboricultural Report

Re: 6-7 Prince Albert Road, London, NW1 7SR

Commissioned by: Iris Two Ltd
Attn: Mr. Buchmann,
Suite A, St. Peter Port House,
Sausmarez Street,
St. Peter Port,
Guernsey
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Compiled by: Modern Arboricultural Services
Paul Macqueen (NCH ARB, ND ARB)

Inspection date: 17th September 2007

Pre-development Tree Report

1. Instructions, Objectives and limitations

- 1.1 I am instructed by Mr. Buchmann of Iris Two Ltd to inspect and report on the trees liable to be effected by the construction at the above property. The objectives of the report are to advise on the current condition of the trees, identify trees for retention and limit damage to the tree/s during construction in the interests of both health and safety, and to continue to promote the visual character and amenity of the area.
- 1.2 The following report is in accordance with BS 5837:2005 Trees in Relation to Construction-Recommendations.
- 1.3 The report includes;
 - i) **Tree Survey:** Including tree categorisation and identification of trees suitable for retention.
 - ii) **Tree Constraints Plan (TCP):** Showing the Root Protection Area (RPA) and representing the effect that the mature height and spread of trees suitable for retention will have on layouts through shade, dominance etc.
 - iii) **Arboricultural Implications Assessment (AIA) and Design Issues:** Whilst the TCP should inform site layout design, it is recognised that the competing needs of development mean that trees are only one factor requiring consideration.
Tree constraints and design: The presents of Tree Preservation orders or conservation area, above and below ground constraints, possible design modifications etc.
Proximity of trees to structures: A realistic assessment of the probable impact of any proposed development on trees and vice versa etc.
 - iv) **Arboricultural Method Statement (AMS):** To include details of tree protection prior to and during construction. Also tree pruning recommendations to promote the trees health and maximise the juxtaposition between development and post construction remedial methods to promote recovery.
 - v) **Tree Protection Plan (TPP):** Showing finalised layout proposals, tree retention and tree and landscape protection measures detailed within the AMS, which can be shown graphically.
- 1.4 The inspection has been carried out from a ground level only. Should more detailed inspection be required then this will be highlighted in survey recommendations.
- 1.5 Trees are living organisms whose health and condition can change rapidly, the health and safety of trees should be checked on a regular basis, preferably at least once a year. The conclusions and recommendations in this report are only valid for one year. This period of validity may be reduced in the case of any change in conditions to or in proximity to the tree.

- 1.6 I have been informed by London Borough of Camden that the site is within a Conservation Area but no trees are subject to Tree Preservation Orders (TPO). Therefore it would be necessary to obtain permission before undertaking any work.

2 Information Received

- 2.1 The following correspondence and drawings of the existing site and the proposed development have been received on which this report is based;
- i) An existing and preliminary site layout plan and side elevation plans. These drawings are used as a basis for the TCP and TPP.
- 2.2 These correspondence and drawings have been copied and attached within Appendix.

3 Site description

- 3.1 The proposed development site are residential semi-detached houses within an urban setting opposite Regents Park, therefore tree cover is limited.
- 3.2 The basis to this report is the proposed renovation of 7 Prince Albert Road. The development includes alteration to the window and door arrangements of the lower ground floor, resurfacing of the paved areas and the removal of a planter containing two trees to increase the side passage width. A Planning Application has been submitted but refused as incomplete, one of the issues is the requirement of a tree protection plan for all trees within 8m of construction.
- 3.3 The two trees within the planter are to be removed to accommodate the development. The remaining two trees within the front of the site require adequate protection to limit the impact of increased activity, movement of machinery and the storage of materials. There are two Lime trees at the rear of the property but are more than 8m from any construction and will be exposed to limited activity and no major works.

4 Tree Survey

- 4.1 The following information is provided:
- a) Reference number (recorded on plans)
 - b) Species
 - c) Height in metres
 - d) Stem diameter in millimetres at 1.5m or immediately above the root flare for multi-stemmed trees
 - e) Branch spread in metres taken at the four cardinal points to derive an accurate representation of the crown
 - f) Height in metres of crown clearance above ground level
 - g) Age class (young, middle aged, mature, over-mature, veteran)
 - h) Physiological condition (e.g. good, fair, poor, dead)
 - i) Structural condition, e.g. presence of decay
 - j) Preliminary management recommendations
 - k) Estimated remaining contribution in years (e.g. less than 10, 10-20, 20-40, more than 40)
 - l) R or A to C category grading (see Table 1) (recorded on TCP)

- 4.2 The trees are categorized in accordance with the BS 5837 Table 1 – Cascade chart for tree quality assessment. A copy is enclosed within the appendix.
- 4.3 On the date of inspection a limited visual inspection from the ground was achieved. A copy of the Tree Survey is enclosed within the appendix.

5 Tree Constraints Plan (TCP)

- 5.1 The influence that trees on and adjacent to the site will have on the layout is plotted on a plan called the TCP. This design tool shows how the below ground constraints, represented by the RPA, and the above ground constraints that the trees pose by virtue of their size and position. Also their future potential sizes and influence.
- 5.2 In order to avoid damage to the rhizosphere (rooting area) of retained trees, the RPA is plotted around each of the category A, B and C trees. This is a minimum area in m², which must be left undisturbed around each retained tree.
- 5.3 A copy of the TCP is enclosed within the appendix.

6 Arboricultural Implications Assessment (AIA) and Design Issues

- 6.1 To accommodate the extension of the side passage, the side Planter is to be reduced back in line with the stair-well. This will include the removal of T2 and T3. I agree that their loss is not of significance to the proposal due to T2's limited future contribution to the site because of its poor structural condition and the inappropriate location of T3 for its species vigorous growth.
- 6.2 The juxtaposition of the tree T1 and the relocation of the planter will result in minimal loss of roots within the RPA. However the remaining rhizosphere is to remain undisturbed and the following measures put in place during construction will prevent compaction of the surrounding areas. T4 is located within 6 Prince Albert Road, Fungal brackets are present on the trunk and it will be directly unaffected by major works, however the RPA is present within the front garden and drive of the site will require protection from compaction.
- 6.3 Barriers are to be erected around the Trunks of T1 and T4 to prevent mechanical damage and are accurately indicated within the AMS and TPP. Pedestrian and loaded vehicular movement is necessary into the site and the current site access is the most logical option. However this is required within the RPA of T1 and T3. Therefore the installation of ground protection in the form of a raised temporary drive incorporating a compressible geotextile layer is required. This must be designed by an engineer to adequately absorb and distribute the loads to prevent compression. A designated area for material storage is indicated away from the RPA's on the TPP.
- 6.4 The current constraints are of significance with regards to both shade and lateral encroachment of the foliage as indicated within the TCP. Therefore limited regular maintenance of the trees will be required to resolve future conflicts.

7 Arboricultural Method Statement (AMS) and Tree Protection Plan (TPP)

7.1 All trees must be adequately protected before development operations start. Therefore the following sequence of operations must work hand in hand with the development process.

- i) **Tree Works:** Remove trees T2 and T3. Prune T1 and T4 to clear the buildings. (Tree works application submitted on the 14th August 2007)
- ii) **Design implications:** No alternative design is required.
- iii) **The construction exclusion zone. Barriers and ground protection:** The location of the protective barriers are plotted accurately on the TPP.
The barriers and ground protection must be erected and installed prior to any materials or machinery is brought onto the site and before any demolition, development or stripping of soil commences.

The Barriers: Must consist of a scaffold framework in accordance with BS 5837 Figure 2 (a copy of which is enclosed within the appendix).

All weather notices should be erected on the barrier with words such as

“Construction exclusion zone-Keep out”

The Ground Protection: For wheeled tracked construction traffic into the site the construction of hard surface access must be designed by an engineer to accommodate the likely loading within the T1 and T4's RPA. The following guidance must be adhered to:

- a) A no dig design must be used to avoid root loss due to excavation.
- b) Be designed to avoid localized compaction, by evenly distributing the carried weight over the track width and wheel base of any vehicles that will use the access.
- c) Such designs might include the use of a three dimensional cellular confinement system as an integral component of the sub base, to act as a load suspension level.
- d) It must be constructed so as to allow moisture infiltration and gaseous diffusion. This can be achieved by forming 50mm diameter holes in the construction at regular spacing of 300-600mm.

During construction the following processes must be adhered to;

- a) No materials can be stored within 5m of the tree's bole.
- b) Oil, bitumen, cement or other material likely to be injurious to a tree must not be stacked or discharged within 5m of the tree's bole.
- c) Concrete mixing must not be carried out within 5m of the tree's bole.
- d) It is essential that fire must not be lit beneath or within close proximity to the canopies.
- e) The trees must not be used as anchorage for equipment.
- f) Care must be exercised when using cranes or similar equipment near the spread of the canopy.

- iv) Removal of fencing must only occur at the end of construction.
- v) **Resurfacing Methodology:** Resurfacing the paved areas and front drive must be considered at the end of construction with landscaping. The following method must be adhered to:
 - a) Care must be taken not to disturb tree roots that may be present beneath it.
 - b) Hand held tools should be used (under arboricultural supervision) to remove the existing surface avoiding damage to the protective bark covering larger roots.
 - c) Tree roots exposed by such operations should be wrapped in dry, clean hessian sacking to prevent desiccation and to protect from rapid temperature change.
 - c) No details have been submitted regarding the replacement hard surface but it must be a permeable and a gas-porous finished surface.
 - d) **Paving slabs and block pavers:** Are available with built in infiltration spaces between the slabs or blocks. They must be laid dry-jointed on a sharp sand foundation to allow air and moisture to penetrate the rooting area.
 - e) **Bitumen paving:** Can consist of porous or impermeable material. As the interstices in unsealed tar paving will eventually become blocked by silt, bitumen is not a suitable surface. The same principle applies to in situ concrete.

- 7.2 The tree's should be inspected by a competent Arboriculturalist following the completion of development for safety, any deterioration in the trees condition, and any accidental damage to identify the need for tree works.

This report is for the sole use of the above client and refers to only the trees identified within, use by any other person(s) in attempting to apply its contents for any other purpose renders the report invalid for that purpose.

Yours sincerely



Paul Macqueen.
(NCH ARB, ND ARB)

Appendix

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	<ul style="list-style-type: none">• 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 <p>NOTE: Habitat reinstatement may be appropriate (e.g. R category tree used as a bat roost: installation of bat box in nearby tree).</p>			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.				

4.4.3 The tree survey may identify the presence of veteran trees on the site. Such trees should be considered carefully in relation to new development, as it is rarely acceptable to locate them within developed areas, rather than open space. The implications of their presence on the land use of the surrounding site should be assessed at the earliest possible stage of the planning process. Veteran trees should be assessed according to the recommendations in 4.3.1. By this assessment, most genuine veteran trees are likely to be included in category A3.

4.5 Tree survey — post-planning

It is recognized that, on occasions, arboricultural advice is not sought until after a preliminary site layout has been prepared. Although this is not the ideal situation, timely and appropriate expert advice can still make a valuable contribution to the process of tree retention and protection. In cases where the arboriculturist is provided with a layout, the tree survey should be undertaken as described in 4.2 to provide advice on tree retention, protection, remedial or mitigation works and new landscape design. It is essential that the trees are assessed objectively and without reference to site layout proposals.

5 Tree constraints plan

5.1 General

The influence that trees on and adjacent to the site will have on the layout should be plotted on a plan called the tree constraints plan (TCP). This is a design tool which should show the below ground constraints, represented by the RPA, and the above ground constraints the trees pose by virtue of their size and position.

5.2 Root protection area (RPA)

5.2.1 In order to avoid damage to the roots or rooting environment of retained trees, the RPA should be plotted around each of the category A, B and C trees (see 4.3). This is a minimum area in m^2 which should be left undisturbed around each retained tree.

5.2.2 The RPA should be calculated using Table 2 as an area equivalent to a circle with a radius 12 times the stem diameter for single stem trees and 10 times basal diameter for trees with more than one stem arising below 1.5 m above ground level.

Table 2 — Calculating the RPA

Number of stems	Calculation
Single stem tree	$RPA(m^2) = \left(\frac{\text{stem diameter (mm)} @ 1.5 m \times 12}{1\ 000} \right)^2 \times 3.142$
Tree with more than one stem arising below 1.5 m above ground level	$RPA(m^2) = \left(\frac{\text{Basal diameter (measured immediately above root flare (mm)} \times 10)}{1\ 000} \right)^2 \times 3.142$
NOTE The 12x multiplier is based on NJUG 10 [9] and published work by Matheny and Clark [10].	

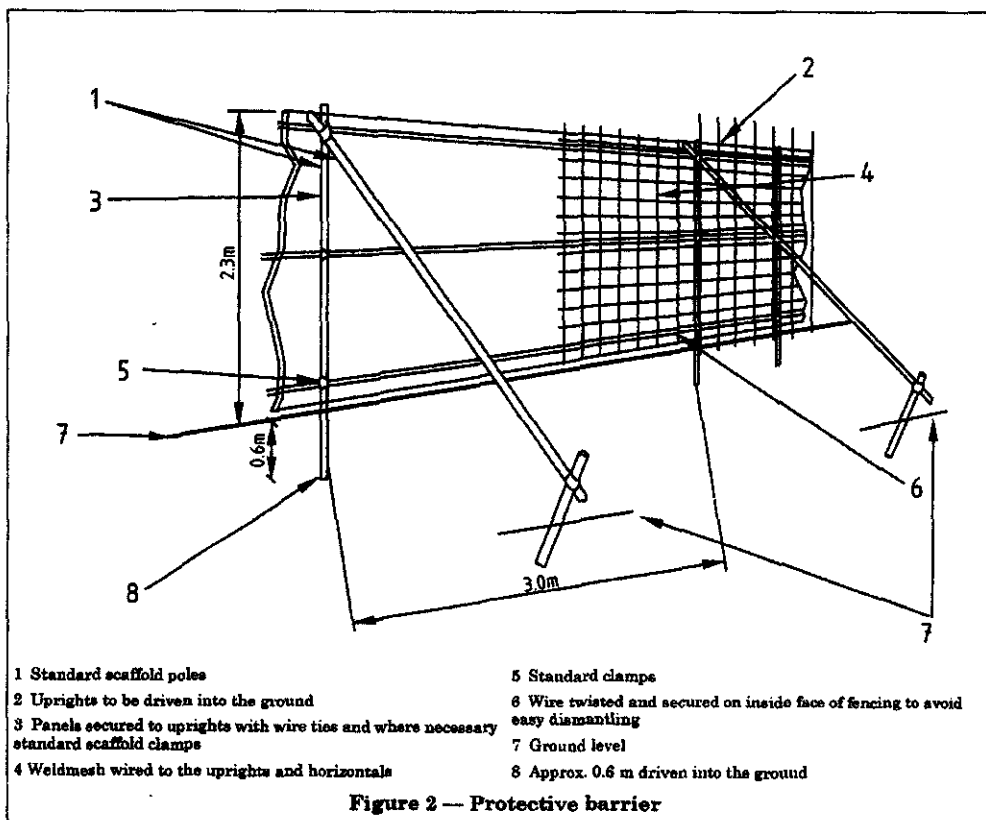
5.2.3 The calculated RPA should be capped to 707 m^2 , e.g. which is equivalent to a circle with a radius of 15 m or a square with approximately 26 m sides.

9.3 Ground protection

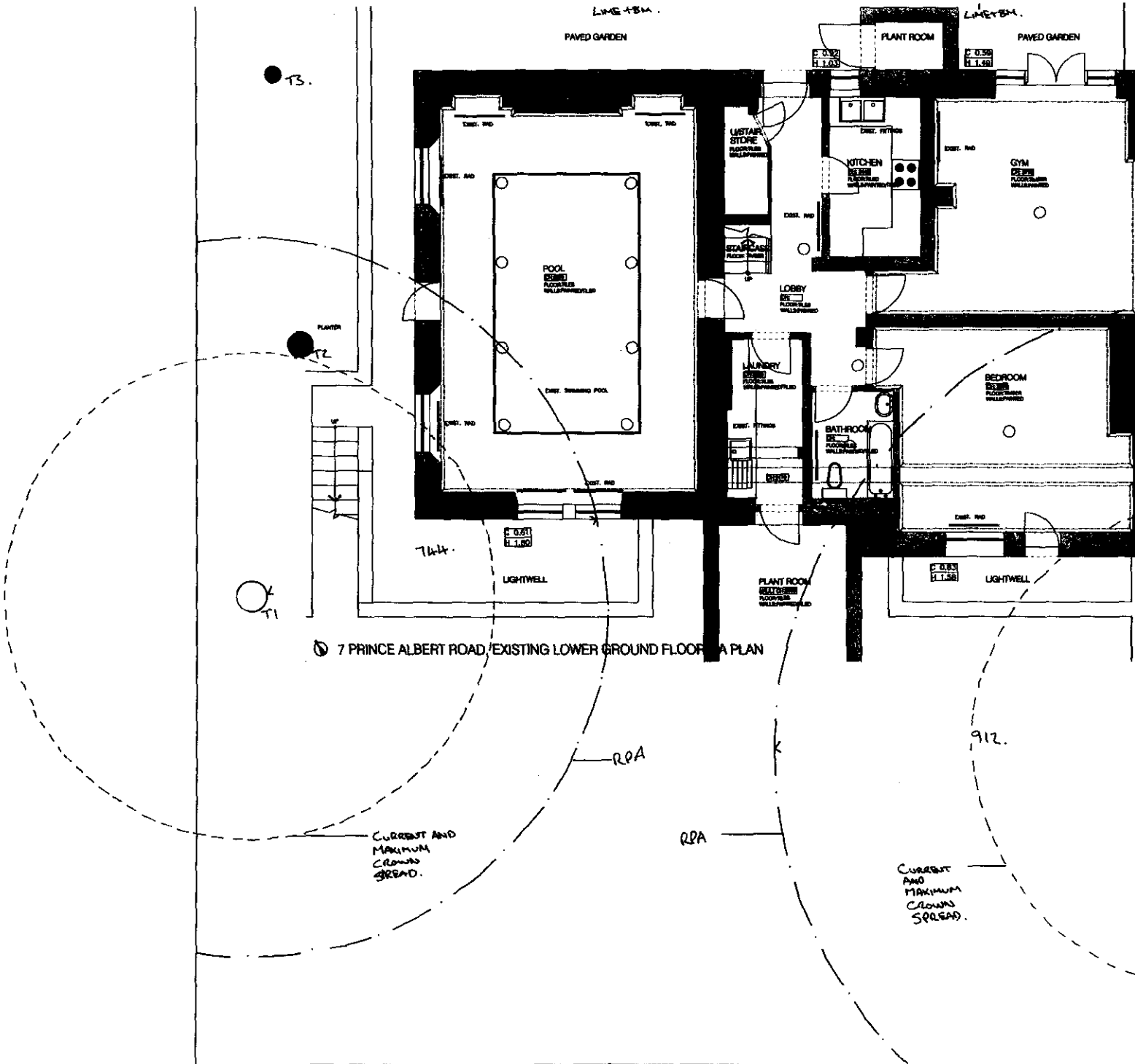
9.3.1 Where it has been agreed during the design stage, and shown on the tree protection plan, that vehicular or pedestrian access for the construction operation may take place within the root protection area (RPA), the possible effects of construction activity should be addressed by a combination of barriers and ground protection. The position of the barrier may be shown within the RPA at the edge of the agreed working zone but the soil structure beyond the barrier to the edge of the RPA should be protected with ground protection.

9.3.2 For pedestrian movements within the RPA the installation of ground protection in the form of a single thickness of scaffold boards on top of a compressible layer laid onto a geotextile, or supported by scaffold, may be acceptable (see Figure 3).

9.3.3 For wheeled or tracked construction traffic movements within the RPA the ground protection should be designed by an engineer to accommodate the likely loading and may involve the use of proprietary systems or reinforced concrete slabs (see 11.8 and 11.9).



Tree Survey at 6-7 Prince Albert Road											
No.	Species	Ht.	DBH	Spr. N,S,E,W	C/C	Age	Phys. Cond.	Stru. Cond.	Pre. Recommendations	Rem. Con	Cat.
T1	Sycamore	18	62	5,5,5,5	6	Mature	Average	Average	Prune to clear building by 2m	20 to 40	A1
T2	Lime	18	57	3,3,3,3	7	Middle	Average	Poor	Fell to ground level	NA	R
T3	Leyland cypress	13	23	4,4,4,4	1	Young	Average	Average	Fell to ground level	NA	R
T4	Indian chestnut	15	76	5,5,5,5	4	Mature	Average	Poor, Fungal brackets at 4m	Prune to clear building by 2m	10	B1



7 PRINCE ALBERT ROAD/EXISTING LOWER GROUND FLOOR PLAN

TREE
CONSTRAINTS
PLAN

EXISTING LOWER GROUND FLOOR PLAN			
NO.	AREA	TYPE	REMARKS
1	3.00	POOL	
2	3.00	KITCHEN	
3	3.00	GYM	
4	3.00	BEDROOM	
5	3.00	BATHROOM	
6	3.00	PLANT ROOM	
7	3.00	LAUNDRY	
8	3.00	LIGHTWELL	

two



