

PRELIMINARY ARBORICULTURAL IMPACT ASSESSMENT ON LAND ADJACENT TO 73 KING'S ROAD, LEYTONSTONE, E11 1AU



Prepared for MLM Consulting Engineers Ltd

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Contents Page

1. Terms of Reference	1
2. Site Description	1
3. Tree Survey Details.....	1
4. Assessment of Tree Constraints	2
5. Arboricultural Impact Assessment	3
6. Tree Management	5
7. Further Arboricultural Input into the Design Process, Construction and Aftercare	5
8. Permissions and Constraints	5
9. Conclusions.....	6

Appendix 1 – Tree Survey Schedule

Appendix 2 – Notes on Column Headings in Appendix 1

Appendix 3 – Tree Constraints Plan

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1. Terms of Reference

- 1.1 The aim of this assessment is to survey trees that may be affected by the potential development of a site adjacent to 73 King's Road, Leytonstone. The aim of this preliminary assessment is to advise the design team of the constraints imposed by the trees on the site.
- 1.2 The assessment addresses the likely impact of the proposed development on surrounding trees and provides recommendations for the protection of retained trees during construction work based on BS 5837:2012 "Trees in relation to design, demolition and construction-Recommendations".
- 1.3 The client has provided a plan showing the position of the proposed development. However, the plan provided did not show the tree positions which have been plotted on the plan based on site measurements. These tree positions should be regarded as approximate and if accurate positions are needed the services of a land surveyor would be required.

2. Site Description

- 2.1 The site is within a largely residential area, situated between 73 and 75 King's Road, Leytonstone. The site has been used by St John's Ambulance but is currently locked and appearing unused (Fig 1). There are no trees on the site other than two pollarded lime trees that form the site frontage (Fig 2).



Fig 1: Site between 73 and 75 King's Road



Fig 2: Two lime trees on site frontage.

3. Tree Survey Details

- 3.1 Appendix 1, the Tree Survey Schedule gives the survey findings in tabular form. The schedule contains all the information specified in section 4.4.2.5 of the British Standard. Appendix 2 gives a full explanation of the survey headings.
- 3.2 The trees were surveyed on 5 November 2019; they were not climbed but surveyed from ground level.

- 3.3 The details recorded during the tree survey have been collected independently of any development proposals, and the categorisation of the quality and amenity value of the trees is made purely on arboricultural grounds.
- 3.4 No assessment of the soil has taken place as part of this report. The British Standard states that a soil assessment should be carried out by a competent person to establish the structure, clay content and potential for volume change of the soil. A survey of this nature is considered outside the scope of this Arboricultural Assessment. For guidance on soil structure in relation to construction advice should be sought from a Structural Engineer. Guidance on foundation depth in relation to building and trees can be found in NHBC Chapter 4.2.

4. Assessment of Tree Constraints

- 4.1 To facilitate the proper assessment of tree constraints a Tree Constraints Plan (TCP) has been prepared and forms Appendix 3. The plan has been produced as a basis for the assessment of the constraints imposed by existing trees on the proposed design.
- 4.2 Appendix 3 shows the position of trees marked by a coloured dot matching the retention category status and a reference number (as listed in Appendix 1). Heights (Ht) are marked in metres for each tree, together with the predicted ultimate heights (U/Hgt).
- 4.3 The plan deals with constraints that the trees may place on the development in two areas as follows:

Below ground Constraints

- 4.4 The Root Protection Areas (RPA) for the trees are shown as a coloured circle to match the retention category colour. The RPA will be used to help inform the closest positions of any future buildings. The RPA will be protected during any development work with temporary barriers as prescribed by the British Standard.

Above Ground Constraints

- 4.5 The branch spreads were measured at the four cardinal compass points, with a shape drawn around these points to indicate approximate branch spread, represented by green broken lines on the plan. The ultimate crown spread has been shown with an orange dashed line. This is a predicted distance, and is based on personal experience of how far it is likely the crown will grow.
- 4.6 A shade pattern has been shown for each tree forming an arc from north west to due east. This gives an indication of the patterns of shadows created by the trees around mid-day in the summer. This is as recommended in BS5837:2012 (Section 5.2.2) but actual shade patterns throughout the year will vary widely. If shading is likely to be a serious constraint a more detailed analysis of shade pattern using proprietary software may be deemed necessary.

5. Arboricultural Impact Assessment

- 5.1 Two individual trees were included in this report. Both trees are situated on the northern boundary of the site.
- 5.2 Both trees have been classed as Category B. These trees are generally in good condition and confer positive landscape values. They are suitable for retention where possible in the context of a development.
- 5.3 Any trees that are retained will be provided with their proper protection according to BS5837:2012 regardless of which category they have been placed in.
- 5.4 The constraints posed by the trees have been shown on *Appendix 3 – TCP*. Appropriate protection must be provided to each retained tree, regardless of its category, in order to prevent damage during any construction related activity.
- 5.5 No detailed design plans have been made available. The constraints affecting individual aspects of the site are discussed below:

5.6 The Proposed Development Area

- 5.6.1 The two trees on site are situated on the northern boundary. Therefore, areas to the south of these trees are more suitable for construction.
- 5.6.2 There is an existing surface in place and therefore it is likely that this will be removed as part of a future development. Where within the RPA of T1 and T2 this must be carried out carefully and under arboricultural supervision, using specific equipment and techniques. These will be detailed as part of the full Arboricultural Impact Assessment and the Arboricultural Method Statement that will be provided once a design for the site has been finalised.
- 5.6.3 The default position should be that any new buildings will remain outside the RPA of retained trees. The principal recommendation of this report is to provide ample space for the future growth of retained trees. The long term liveability and usability of any buildings must be considered so that no post-development tree conflicts arise.
- 5.6.4 If it becomes necessary to carry out construction within the RPA of any retained trees, the British Standard does allow for the use of special foundations, such as piles or mini-piles, together with suspended or rafted floors that are placed at or above ground level. However, in the context of a pre-development survey attempts must be made to avoid positioning buildings within the RPA or crown spreads of trees, especially on a site that is largely free of tree constraints. Any specialist foundations required must be designed by a suitably experienced engineer, and approved by the Consulting Arboriculturalist prior to their use. These techniques must only be used if placement of the building within the RPA is unavoidable.
- 5.6.5 Any development should take place outside the current or predicted ultimate crown spreads as shown on the TCP to avoid damage to the trees or the new buildings during construction, and to avoid conflict between the future users of the building and the trees.

- 5.6.6 Shading is not a significant constraint for this site as both trees are situated on the northern boundary of the site.

5.7 Site Access and Paths, Hard Surfaces and Driveways

- 5.7.1 Any access into the site will be within the RPA of T1 and T2. If vehicular access is to be provided, any new surface must be put in place on top of either the existing surface, or on top of the existing sub-base if the surface is removed.
- 5.7.2 If a new road is to be put in place within RPA of retained trees where there is no existing surface, it must be formed using a No-Dig method, with the road surface placed above ground level on a cellular confinement system such as Geocell, Cellweb or similar that will spread the weight to prevent compaction. Such a system must be designed by a suitably experienced engineer and in conjunction with the Consulting Arboriculturalist to ensure that there is no damage to the tree roots. This No Dig surface must not be within 500mm of the stem of a retained tree, and must have a permeable top surface.
- 5.7.3 No more than 20% of the RPA of retained trees can be covered by a hard surface.

5.8 Services and Soakaway

- 5.8.1 Service runs should be routed to avoid the RPAs of trees. If this is not possible, special techniques must be employed to place the services within the RPA of the trees. The British Standard suggests a range of trenchless methods suitable for various applications including microtunnelling, surface launched directional drilling, Pipe ramming and Impact Moleing/thrust boring. It is important common ducts should be used where it is not possible to avoid the RPA. Further guidance on installing underground services adjacent to trees can be found in the NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (Volume 4 Issue 2). This document outlines a number of techniques that may be used for trenching near trees, including trenchless techniques, discontinuous trenching and hand digging.
- 5.8.2 Soakaways must not be excavated within the RPA of retained trees.
- 5.8.3 It will be necessary to prepare detailed plans for any services that run through the RPA of retained trees. This should be produced in conjunction with an arboriculturist, and include allowance for the space needed for access for the installations, and the levels across the proposed area.
- 5.8.4 Any above-ground apparatus including CCTV cameras and lighting should also be positioned to avoid the need for any regular or detrimental pruning to the trees. Minor facilitative pruning is acceptable. However positions that require repetitive and significant tree work must be avoided.

5.9 Tree Protection Measures

- 5.9.1 The specification for temporary protective barriers and any other tree protection measures will be outlined in the Arboricultural Method Statement which will be produced in the context of a full Arboricultural Impact Assessment; these specifications will be required once detailed design

proposals become available. No construction related work of any kind will take place until the appropriate tree protection methods are installed.

- 5.9.2 It may also be necessary to provide access for construction traffic on currently unprotected ground within the RPA of retained trees. If this is the case, temporary ground protection must be put in place. This temporary ground protection will be specified according to BS5837:2012 and further details will be included within the Arboricultural Method Statement.

6. Tree Management

- 6.1 The severing of ivy has been specified in column 12 of Appendix 1 for arboricultural and health and safety reasons on both T1 and T2. The work is not urgent but should be carried out within 12 months from the date of this report, or prior to the commencement of works, whichever is soonest. This work has been recommended to allow easier inspection of the structural condition of the tree.
- 6.2 This schedule does not refer to, and will be superseded by, any requirements for tree felling for development purposes that may be required.
- 6.3 Please note that the inspection of trees on site was of a preliminary nature, gathering, as set out in the British Standard, only information needed to assess tree constraints. While any obvious tree defects that may constitute a risk have been recorded in the survey and appropriate remedial work specified this assessment does not constitute a full tree health and safety survey. In particular inaccessible trees, trees with heavy ivy cover and trees within groups have not been inspected fully and dimensions estimated. However, any comments on the trees relating to health and safety remain valid for 12 months from the date of this report after which the trees will require re-inspection.
- 6.4 If trees need to be removed for development purposes provision should be made for replacement planting normally on a one-for-one basis.

7. Further Arboricultural Input into the Design Process, Construction and Aftercare

- 7.1 This assessment will need to be revised to include a Tree protection Plan (TPP), Arboricultural Method Statement (AMS) and Timetable for the Implementation of Tree Protection Works when a final design has been produced.

8. Permissions and Constraints

- 8.1 It must be ascertained whether there are any Tree Preservation Orders on any trees within the site. If there are, written permission must be obtained from the Local Authority prior to commencing any work that may affect the condition of the protected trees. If the site is within a Local Authority Conservation Area the Local Planning Authority must be given 6 weeks' notice of any works on the trees.

- 8.2 To assist the planning process the LPA should be provided with a copy of this report and invited to comment on tree protection issues.
- 8.3 When dealing with developments close to trees, special attention should be paid to related legislation ensuring that the Wildlife and Countryside Act (1994), Conservation of Habitats and Species Regulations (2010) and the Countryside Rights of Way Act (2000) are adhered to. It must be ensured that nesting birds and protected species such as bats and reptiles are considered and protected.

9. Conclusions

- 9.1 This assessment has set out the constraints imposed by trees in the form of a Tree Constraints Plan to advise the design team.
- 9.2 As far as possible the design should aim to both B category trees included within this report.
- 9.3 The design should take full consideration of the root protection requirements, branch spreads and potential for shading of retained trees.
- 9.4 Recommendations for preliminary tree work have been provided together with recommended timescales for the work some of which has health and safety implications.
- 9.5 Carrying out an assessment at this early stage is a vital first stage in a process that will provide arboricultural advice and input through the design and construction phase to completion. This approach is exactly as recommended in BS5837:2012
- 9.6 A further revised Arboricultural Impact Assessment, together with a Tree Protection Plan and Arboricultural Method Statement will need to be produced when a design for the development becomes available. All trees can be retained and protected as set out in BS5837:2012 throughout the works.

G. G. Robbie, BSc Hons For, MICFor, MArborA

A.T. Coombes Associates Ltd

07 November 2019

APPENDIX 1-

TREE SURVEY SCHEDULE

SITE: LAND ADJ. TO 73 KING'S ROAD, LEYTONSTONE, E11 1AU

SURVEY COMPLETED: 05/11/19

1	2	3	4	5	6				7	8	9	10	11	12	13	14	15	16
Tree No.	Species	Ht (m)	Stem dia (mm)	No of Stems	Branch Spread				Height and Direction of First Branch (m)	Mean Canopy Ht	Life Stage	Physiological Condition	Structural Condition	Preliminary Tree work	Estimated remaining contribution (Yrs)	Cat grading	Radius of RPA (m)	RPA (sq m)
					N	E	S	W										
T1	Lime #	11.0	700	1	3.8	3.2	4.0	4.0	2.5 E	5.0	EM	Fair - heavy ivy cover	Moderate - forked at 3m. Ivy obscuring stem. Previously pollarded	Sever ivy at base	20+	B2	8.4	221.7
T2	Lime #	11.5	650	1	3.5	3.5	3.5	3.5	2.0 S	6.0	EM	Fair - heavy ivy cover	Moderate - Multi-stemmed at 2m. Ivy obscuring stem. Previously pollarded	Sever ivy at base	20+	B1	7.8	191.2

SURVEYED BY A.T. COOMBES ASSOCIATES

denotes estimated dimensions due to lack of access to tree

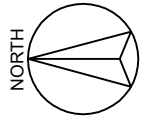
Appendix 2: Notes on the Column Headings in Appendix 1

Col#	Title	Notes
1	Tree No.	Tree numbers to correspond with those shown on the TCP.
2	Species	Each tree has been identified and the common name given in each case.
3	Ht (m)	Height of the tree
4	Stem dia (mm)	<p>The stem diameter measured in millimetres at 1.5 metres above ground.</p> <p>For multi-stemmed trees the stem diameter has been calculated according to the formula given in BS 5837:2012. For trees with up to 5 stems, each stem has been measured at 1.5m, squared and added together. The diameter shown is the square root of the total.</p> <p>For multi-stemmed trees with over 5 stems a sample of five diameters has been taken at 1.5m, averaged and squared, then multiplied by the total number of stems. The square root of this sum gives the stem diameter figure.</p>
5	Number of Stems	Total number of stems on the tree.
6	Branch Spread	The branch spread measured in metres from the stem to the tip of the outer branches has been measured in four directions of the compass North, South, East and West.
7	Height and Direction of First Branch spread (m)	First significant branch and direction of growth (relative to the four cardinal compass points).
8	Canopy Ht	Mean height of the canopy above ground level.
9	Life Stage	The life stage of the tree has been assessed into one of the following categories: Y =Young, SM = Semi Mature, EM = Early Mature M = Mature, OM = Over mature and V = Veteran.
10 and 11	Condition	The British Standard recommends that a note is made of the structural and physical condition of the tree.

Col#	Title	Notes
12	Preliminary Management Recommendations	<p>This column includes all work considered necessary to, as far as is practicable, ensure health and safety and for the good arboricultural management of the trees. These works are not associated with the development proposals. All work to be carried out to BS 3998: 2010 "Tree Work-Recommendations".</p> <p>Recommendations given in respect of Health and Safety remain current for 12 months from the date of this assessment after which further inspection is recommended.</p> <p>It should be noted that trees are dynamic structures subject to the forces of nature, which can fail without showing external symptoms.</p>
13	Estimated remaining Contribution (Yrs)	<p>The estimated remaining contribution of each tree in years has been assessed, using personal experience, into the following groupings:</p> <p>< 10 = Less than 10 years 10+ years = More than 10 years 20+ years = More than 20 40+ years = More than 40 years</p>
14	Category grading	<p>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.</p> <p>(Trees that have serious, irremediable structural defects, such that their early loss is expected due to collapse or ill health including trees that will become at risk due to the loss of other U category trees).</p> <p>A = Those trees of high amenity quality and value in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested)</p> <ol style="list-style-type: none"> 1) Trees that are particularly good examples of their species if rare unusual or essential components of groups or formal or semi-formal arboricultural features 2) Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views in or out of the site, or those of particular visual importance. 3) Trees groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran tree or wood pasture)

Col#	Title	Notes
14 cont	Category grading cont	<p>B = Those of Moderate quality and amenity value: those in such a condition as to a significant contribution (a minimum of 20 years is suggested)</p> <ol style="list-style-type: none"> 1) Trees that might be included in the high category but are downgraded because of impaired condition (e.g. remediable defects) 2) Trees and woodland that forming distinct landscape features but do not form essential components 3) Trees with clearly identifiable conservation or other cultural benefits. <p>C = Those of low quality and amenity value currently in adequate condition to remain until new planting is established (minimum of 10 years is suggested) or trees under 150 mm stem diameter.</p> <ol style="list-style-type: none"> 1) Tree not qualifying in higher categories 2) Trees present in groups or woodlands but not with a significantly higher landscape value and or offering low or temporary screening benefit. 3) Trees with very limited conservation or other cultural benefits. <p>Note: Category C trees are the least suitable for retention, where they would impose a significant constraint on the development their removal for development purposes may be considered acceptable by the LPA. Trees with a stem diameter under 150mm could be considered for relocation.</p>
15	Radius of RPA (m)	The distance that would form the radius of a circular protection zone is given in metres calculated by multiplying the stem diameter given in column 4 by 12. The methods for calculating the stem diameter of multi-stemmed trees is given in section 4 above.
16	RPA (m ²)	<p>The area of the RPA is given in square metres calculated by the following formula:</p> <p>Single Stemmed Trees;</p> $RPA\ m^2 = \left(\frac{(stem\ diameter\ mm\ @\ 1.5m \times 12)}{1000} \right)^2 \times 3.142$ <p>The methods for arriving at the stem diameter for multiple stemmed trees are described above in the notes for column 4.</p>

Site:
73 King's Road,
Leytonstone
Client:
MLM Consulting E
Ltd



To Scale 1:250 at
Tree Positions are App

KEY

- B Category RPA
- Current Crown Spreads
- Ultimate Branch Spreads
- Shade Patterns
- Site Boundary

Drawn By: GR	Date:
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