March 2022 CBA11577 v2

GML (Highgate Road)

ARBORICULTURAL DEVELOPMENT STATEMENT

Site: 19-37 Highgate Road



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ARBORICULTURAL DEVELOPMENT STATEMENT

Arboricultural Implications Assessment and Method Statement

guided by recommendations within BS5837:2012

Client:	GML (Highgate Road)
Site:	19-37 Highgate Road
Arboricultural Consultant:	Dominic Poston F.Arbor.A, MICFor, CEnv, Prof Dip (RFS), BSc (Hons), HND
Date:	November 2021

SUMMARY

The proposal is for the demolition of the existing onsite structures and construction of a mixed use split level scheme including basement and up to 6 floors at the site of 19-37 Highgate Road, Kentish Town, London.

This Arboricultural Development Statement (ADS) will demonstrate the protection measures for the trees and should be read in association with the Tree Protection Plan CBA11577.02A TPP which identifies tree retention measures. It follows the initial tree survey, implications assessment and on-going discussions to minimise the impact upon the existing tree stock.

The emphasis of the report is predominantly that of preservation and tree protection. It identifies methodologies to provide protection for trees, to ensure their healthy and safe retention during and post development, as guided by BS5837:2012 and current best practice.

1 (one) tree can be retained adjacent to the development as detailed within this report.

There are 5 (five) trees and 1 (one) group that will be lost to facilitate the development.

CBA Trees believes that the trees highlighted for retention within this report can be retained without undue stress on their long-term health.

CONTENTS

Section Title

Page No.

PART 1

ARBO	ORICULTURAL IMPLICATIONS ASSESSMENT	
1.0	INTRODUCTION	3
2.0	CLIENT'S BRIEF	3
3.0	DESCRIPTION OF THE SITE	4
4.0	THE TREE STOCK	4
5.0	TREE PRESERVATION ORDER/CONSERVATION AREA	5
6.0	PROPOSED TREE RETENTION AND TREE LOSS	5
7.0	SUMMARY OF ARBORICULTURAL IMPLICATIONS	5

PART 2

ARBORICULTURAL / CONSTRUCTION METHOD STATEMENTS

8.0	PRE-COMMENCEMENT SITE MEETING	7
9.0	ADDITIONAL ARBORICULTURAL ADVICE FOR SITE PERSONNEL	7
10.0	PRE-DEVELOPMENT TREE WORKS	7
11.0	TREE PROTECTION MEASURES	8
12.0	DEMOLITION	10
13.0	REMOVAL OF BUILT FORM AND HARD SURFACES IN CLOSE PROXIMIT	ΓY
	TO RETAINED TREES	11
14.0	EXISTING SERVICES	12
15.0	AVOIDING DAMAGE TO STEMS AND BRANCHES	12
16.0	VEHICULAR MOVEMENTS	12
17.0	SITING OF TEMPORARY OFFICES, TOILETS AND MATERIAL STORAGE	
	COMPOUNDS	12
18.0	GENERAL CONSIDERATIONS WITHIN AND OUTSIDE THE	
	CONSTRUCTION EXCLUSION ZONE	13
19.0	UTILITY SERVICE CONNECTIONS	13
20.0	SOFT LANDSCAPING WORKS	13
21.0	SITE MONITORING AND SUPERVISION	15
22.0	REPORT DAMAGE TO TREES AND TREE PROTECTION BARRIERS	16
23.0	REMOVAL OF PROTECTIVE BARRIERS	16
24.0	COMPLETION MEETING	16
25.0	CONCLUSIONS	16
26.0	CONTACT LIST	17
27.0	BIBLIOGRAPHY	17

SUPPORTING INFORMATION/APPENDICES:

- CB1 Tree Survey Schedule and Tree Survey Plan CBA11577.01 TSP
- CB2 Root Protection Area Schedule
- CB3 Tree Protection Plan CBA11577.02A TPP
- CB4 Tree Works Schedule

GUIDING PRINCIPLES/APPENDICES:

- CB5 Tree Protection Guidance Leaflet Construction Exclusion Zone Site Notice Common Causes of Damage During Construction Works
- CB6 Qualifications and Experience

1.0 INTRODUCTION

- 1.1 There is a development proposal for the site requiring demolition of the existing onsite structures and construction of a new mixed use scheme located at 19-37 Highgate Road, Kentish Town, London.
- 1.2 Document disclosure provided:
 - Topographical Site Survey
 - Proposal Plans by AHR London Ltd
- 1.3 The client provided the original site plans and locations of the trees, and these have been the basis for the production of subsequent plans. Whilst CBA Trees has had a limited input in defining the contents of the development plan, it broadly conforms to the requirements of BS5837:2012 *"Trees in Relation to Design, Demolition and Construction Recommendations"* and current best practice advice.
- 1.4 Our advice has been sought on the principles of the development in relation to the potential impact on the existing tree stock, to inform and to facilitate the development layout that is acceptable in arboricultural terms.

2.0 CLIENT'S BRIEF

- 2.1 In line with our written quotation and verbal instructions, information has been compiled in accordance with BS5837:2012 and current best practice advice.
 - To undertake a tree survey and produce a schedule of Root Protection Areas appended at CB1 and CB2 respectively
 - To produce an AutoCAD compliant Tree Survey Plan that relies on the accuracy of the topographical survey provided by the client (plan CBA11577.01 TSP appended at CB1)
 - To undertake an Arboricultural Implications Assessment (AIA) of the development provided by the client to identify which trees will be lost, which can be retained and suggest mitigating build techniques in order to retain trees.
 - Based on the above and further on-going discussions, to provide an Arboricultural Development Statement detailing the methodologies for the retention of the tree stock where feasible, in relation to the approved development layout including a Tree Protection Plan CBA11577.02A appended at CB3.
- 2.2 The advice provided is in support of the current planning application and has been formulated without discussion with the main construction contractors who at this stage have not been appointed. Once the main contractors are appointed, amendments to this Method Statement may be required for construction purposes. All amendments will be assessed by the retained arboricultural consultant and approved in writing by London Borough of Camden.

3.0 DESCRIPTION OF THE SITE

3.1 The site is currently made up of a low-rise commercial building with associated hardsurfaced car-parking and landscaping. Existing trees are located to the site boundaries with low value trees/vegetation within a raised planter fronting Highgate Road, a moderate value solitary tree in the northern corner of the site and another moderate value tree located in adjacent land to the south of the site.

4.0 THE TREE STOCK

4.1 A tree survey was undertaken by CBA Trees on 15th November 2021 that identified 6 (six) individual trees and 1 (one) group of trees. The Tree Survey Schedule and Tree Survey Plan (CBA11577.01) are appended at CB2.

4.2 Tree Categorisation Method

Category U = Trees in such a condition that any value would be lost within 10 years, or should be removed for reasons of sound arboricultural management. There were no 'U' grade trees or groups on or adjacent to the site at the time of surveying.

Note: BS5837:2012 states -"Category U trees are 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."

- Category A = Trees of high quality and value: in such a condition as to make a substantial contribution, (40 years or more is recommended). There were no individual 'A' grade trees or groups on or adjacent to the site at the time of surveying.
- Category B = Trees of moderate quality and value, capable of making a significant contribution for in excess of 20 years. There were 2 (two) individual 'B' grade trees on or adjacent to the site at the time of surveying (T1, T2).
- Category C = Trees of low quality and value which might remain for a minimum of 10 years or young trees with stems of less than 150mm diameter. There were 4 (four) individual 'C' grade trees on the site at the time

of surveying (T3, T4, T5, T6)

Note:

Trees under these categories are trees that should be a material consideration in the development process; the subcategories are intended to reflect arboricultural, landscape and cultural values respectively.

- 4.3 The solitary group surveyed on site (G1) consists of mixed broadleaved species and has been categorised as low 'C' grade.
- 4.4 For more details of the existing tree stock, refer to the Tree Survey Schedule (appended at CB1).

5.0 TREE PRESERVATION ORDER/CONSERVATION AREA

5.1 CBA Trees was not instructed to investigate whether trees on or adjacent to the site are protected by a Tree Preservation Order or located within a Conservation Area. The client is advised to obtain written confirmation from London Borough of Camden to establish the legal status of these trees prior to any works being undertaken, outside the remit of an approved planning application.

6.0 PROPOSED TREE RETENTION AND TREE LOSS

- 6.1 In accordance with the recommendations contained within BS5837:2012, an experienced arboriculturist has assessed the requirements for tree protection and the Root Protection Area (RPA). The implications of the proposed development are detailed below, along with any mitigating measures to ensure the retention of these trees.
- 6.2 As part of the assessment, dimensions have been scaled from the proposed development drawing (HR-AHR-B1-00-DR-A-20-100-P4) prepared and modified, to include the relevant Tree Survey data and the information as shown on Plan CBA11577.02A TPP appended at CB3.

7.0 SUMMARY OF ARBORICULTURAL IMPLICATIONS

7.1 The following summary of implications relates to only those trees that will require mitigation measures to allow for construction operations indicated on plan CBA11577.02A TPP.

Tree No.	Species	BS 5837:2012 Cat	Potential cause of harm	Implication	Mitigation
T1	Norway Maple	В	Excavation within RPA	Tree loss	New planting in landscape phase
T2	Tree of heaven	В	Construction in close proximity	Lateral crown reduction	Works to BS3998
Т3	Tree of heaven	С	Excavation within RPA	Tree loss	New planting in landscape phase
T4	Cotoneaster	С	Excavation within RPA	Tree loss	New planting in landscape phase
Τ5	Flowering cherry	С	Excavation within RPA	Tree loss	New planting in landscape phase

PART 1 ARBORICULTURAL IMPLICATIONS ASSESSMENT

Tree No.	Species	BS 5837:2012 Cat	Potential cause of harm	Implication	Mitigation
T6	Purple leaved plum	С	Excavation within RPA	Tree loss	New planting in landscape phase
G1	Mixed	С	Construction in close proximity	Tree loss	New planting in landscape phase

8.0 PRE-COMMENCEMENT SITE MEETING

8.1 It is recommended that a pre-commencement site meeting should be held prior to any works commencing on site, to agree all approved processes with the arboricultural consultant, the construction personnel and London Borough of Camden. This meeting could be used to formally agree the methods of work, position of site offices, material storage, compounds, parking and tree protection measures prior to commencement of the development and the associated clearance work.

9.0 ADDITIONAL ARBORICULTURAL ADVICE FOR SITE PERSONNEL

- 9.1 To provide site personnel with additional information regarding the requirements of Tree Protection, a leaflet (appended at CB5) shall be issued to all staff at the time of their site induction. Spare copies of this leaflet shall be available in the site office as replacements.
- 9.2 In order to inform site personnel of the purpose of the barriers, information notices shall be fixed to the barriers at 5m intervals. These notices shall be of all-weather construction and shall be substantially in the form of the specimen provided at appendix CB5 and replaced as and when necessary.

10.0 PRE-DEVELOPMENT TREE WORKS

- 10.1 All tree works will be undertaken prior to the commencement of site preparation and construction works.
- 10.2 <u>All permitted or approved tree work</u> should be carried out in accordance with the British Standard *"Recommendations for Tree Work"* BS3998:2010, by suitably qualified and experienced professional arborists. Under no circumstances shall site personnel undertake any tree pruning operations. All tree surgery works should be carried out prior to the development of the site, and erection of protective barriers.
- 10.3 If any works are required to retained trees protected by a TPO or within a Conservation Area, prior to full planning permission being granted, written approval must be obtained in advance from London Borough of Camden.
- 10.4 Consideration should be given to the timing of the proposed tree works to avoid the active growing period of trees. Therefore, all tree work should ideally be carried out during the dormant period from November through to February and then again from June to August.
- 10.5 Due to the bird-nesting season, considered to be from 1st March through to the 31st July (Natural England) depending on weather conditions, consideration must also be given to the potential for nesting birds. Therefore, where tree work is to be carried out within these months the project ecologist must be consulted to:
 - Complete or advise on a pre-works survey that needs to be carried out by a suitably competent person. As a general rule, it should be assumed that birds will be nesting in trees, and it is down to contactors to assess, record and confirm

that any works carried out in the management of trees and other vegetation has not disturbed actively nesting birds.*

- Ground vegetation, and therefore ground nesting birds, can often be overlooked by tree workers so additional care and controls should be taken when access and egress to the work site may also cause disturbance or damage to a nesting site. This is also true for retained trees on site as the removal of adjacent trees or remedial works on a tree may lead to an established nest being abandoned, exposed to the elements or predation. This action is also a breach of the Act and therefore could lead to prosecution due to the infringement of the Wildlife and Countryside Act 1981 and breaching the Conservation of Habitats and Species Regulations 2010 (as amended).
- 10.6 Although not apparent at the time of the site visit, consideration should also be given to the presence of bats, and a full visual assessment should be undertaken before any works are carried out on the trees. Where bats are identified as a serious concern, a bat survey should be undertaken by qualified and trained personnel to identify the needs of the bats (roosts, resting place etc) and no tree works can be carried out until the 'all clear' is given, or a programme of recommendations is received in writing.
- 10.7 Should additional tree works become apparent during the construction process; written consent will be required from London Borough of Camden prior to these additional works being undertaken.
- 10.8 All tree works that are required to facilitate the development are detailed within the Tree Works Schedule appended at CB4.

11.0 TREE PROTECTION MEASURES

11.1 Reasons for Tree Protection

The correct and timely installation and maintenance of tree protection measures is the most important action necessary to ensure retained trees, groups, woodlands and hedgerows on and adjacent to the site, remain unaffected by development operations. Exclusion of construction activity from the outset of site preparation will ensure those trees identified for retention are maintained in a safe and healthy condition.

Although aerial parts of the tree, trunk, branches and twigs are obvious, extensive and irreparable damage can be caused to the roots and rooting environment without any immediately noticeable effect. Severance of large roots in close proximity to the stem can result in the immediate loss of stability and/or rapid death whilst damage to more distal parts of the root system or rooting environment will result in a slow decline in tree health over a period of several years, resulting in premature loss.

11.2 Damage to Trunks Stems and Branches

Impact damage to the crown of the tree can result in the loss of leaves that produce starch and sugars (carbohydrates) and a reduction in the visual amenity that established trees provide. These carbohydrates are necessary for maintaining all biological functions within the tree, including growth, reproduction and defence. Extensive crown damage will reduce the tree's ability to produce carbohydrates and increase physiological stress on the tree.

The bark protects the underlying vascular tissue and cells responsible for growth from drying, disease and decay. Bark is loosely attached to the underlying tissue and can be easily damaged or removed through direct contact. It is particularly susceptible to damage when trees are young or in early spring following the onset of growth.

Impact damage which removes bark, results in dysfunction of the underlying vascular tissue preventing transport of water, mineral nutrients and carbohydrates to parts of the tree to which they are connected. If damage to the bark extends around the whole circumference, the root, branch or trunk the section beyond the damage will be killed.

Branches which are either broken or are torn from the trunk of the tree, create wounds which are prone to colonization by wood destroying organisms. These organisms cause internal decay, which result in future tree failure and premature loss.

11.3 Purpose of Tree Protection

All site operations will be planned, implemented and supervised to prevent the following:

- Root severance
- Damage to the bark, branches and trunks
- Compaction of the soil within the Construction Exclusion Zone
- Alterations in soil level
- Soil contamination by phytotoxic materials such as herbicides, petrol, oils, diesel, cement and concrete washings or other construction additives

11.4 Tree Protection

Before starting demolition works tree protection will be installed in accordance with Tree Protection Plan CBA11577.02A TPP (appended at CB3). This will occur immediately following the completion of tree works and prior to any site preparation works starting.

A copy of the Tree Protection Plan will be displayed in the site office and canteen as a point of reference for all site operatives.

11.5 No tree protection fencing is required for this scheme; instead, the existing boundary treatment will act as sufficient segregation between construction activity and T2.

11.6 Ground Protection

Pedestrian movements

T2 will require construction activity within the identified RPA. Ground protection will be implemented as per the Tree Protection Plan CBA11577.02A TPP.

Ground protection will consist of a single thickness of butt jointed scaffold boards or minimum 20mm marine plyboard supported on a 150mm thick layer of composted woodchip that is prevented from mixing with the underlying soil by geotextile separation layer.

Site and Machinery Access within Construction Exclusion Zone

Access and machine operation may be required within the RPA of T2.

At this stage, no information has been provided as to the type, weight or ground pressure of the equipment to be deployed, and therefore the exact type of ground protection is yet to be specified. The method of ground protection will be engineer designed and fit for purpose. Prior to the commencement of works, ground protection will be assessed by the retained arboricultural consultant and approved in writing by the London Borough of Camden tree officer.

A compressible layer will be incorporated into the design to minimise compaction of the rooting environment. This layer could consist of a thick layer of composted wood chip or preparatory neoprene mats.

Once the barriers are in place it must remain *in-situ* throughout the following list:

- Contractor occupancy
- Plant and Materials delivery
- Construction works
- Installation of porous surfacing
- Utility installation
- Completion of development
- Landscaping

The area within the CEZ will be regarded as **sacrosanct**, and the tree protective barriers shall not be taken down or relocated at any time without the written approval of London Borough of Camden. An example of a CEZ notice is appended at CB5.

12.0 DEMOLITION

- 12.1 Demolition of existing surface structures will be carried out to prevent damage to existing retained trees.
- 12.2 Demolition of the structures in close proximity to the retained trees must be done with due care and attention, in order to adequately respect overhanging canopies of all retained trees. To this end, the following rules will apply:

- Site personnel are to undergo an induction session prior to being allowed to work on site. The induction will introduce the contractors to the requirements of the Protection Method Statement. A copy of the Method Statement will be made available as a point of reference in respect of tree protection requirements. In addition, a copy of the Tree Protection Plan will be provided or pinned up in the site hut. During the induction, trees that are to be retained and protected will be highlighted to the demolition personnel and they will be physically shown which trees are to be protected on site. In this way, it is hoped that unnecessary damage, by root disturbance and collision of machinery booms and operating arms with tree crowns can be avoided.
- All walls, foundations and basements are to be pulled in on themselves towards the centre of the site and away from retained trees. This will be done in a direction away from the tree protective barriers and all large machinery to be operated at least 2.5-3.0 metres outside the tree protective fence line from where it is erected for the site preparation works.
- Any machinery used for this purpose is to stand and operate over existing hard surfaces wherever possible, but always outside the CEZ as defined by the protective barriers.
- Where dust is created and deposited on adjacent retained trees, provision will be made to wash down the crowns of retained trees weekly to prevent excessive dust affecting the photosynthetic capacity of retained trees.

13.0 REMOVAL OF BUILT FORM AND HARD SURFACES IN CLOSE PROXIMITY TO RETAINED TREES

- 13.1 Removal of existing surfacing, built forms or other excavations within the CEZ of retained trees, must be undertaken by hand (where feasible and in line with Health and Safety polices) to avoid any surface root damage, and shall be supervised on-site by the retained arboricultural consultant.
- 13.2 Any removal of hard surfacing, built form or other excavations in close proximity to trees will be undertaken by working only from the existing hard surface or protected ground area. The required work should then be completed with hand operated tools or appropriate machinery, but under the supervision of an arboriculturist. Any machinery or equipment to be used will need to be lightweight and run on additional ground protection, or working from the existing hard standing only.
- 13.3 If the area of the zone of protection around the retained trees is to be left following the removal of the existing hard surface, and before a new hard surface is laid, or the area receives soft landscaping treatment, then ground/tree protection MUST be correctly re-established immediately the hard surface removal work has been completed.

13.4 If there is a delay, for whatever reason, and the area that was previously protected by hard surfacing is left exposed awaiting a new surface, a temporary surface must be implemented, and/or Hessian sacking must be placed over any exposed roots.

14.0 EXISTING SERVICES

- 14.1 No Information has been provided on the location and size of existing services. However, existing services within the RPA and CEZ of retained trees will not be chased out but cut at the edge of any structure and left *in- situ*.
- 14.2 Cabling will only be recovered from beneath a CEZ where it is located in ducting and can be removed by winching from an existing service manhole beyond the CEZ.
- 14.3 Service pipes and ducts, where they are located within the CEZ or RPA of retained trees, will be made redundant either by pipe bursting or by filling with an inert material such a foamed concrete.

15.0 AVOIDING DAMAGE TO STEMS AND BRANCHES

15.1 Care shall be taken when planning site operations, to ensure that wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Such contact could result in serious damage to them and might make their safe retention impossible. Consequently, any transit or traverse of plant in close proximity to trees, will be conducted under the supervision of a banksman, in order to ensure adequate clearance from trees is maintained at all times.

16.0 VEHICULAR MOVEMENTS

16.1 It is not anticipated that there will be a need for excess vehicular movement near the retained trees, given that there is established access/areas of existing hard surface within the site that are suitable for the purpose.

17.0 SITING OF TEMPORARY OFFICES, TOILETS AND MATERIAL STORAGE COMPOUNDS

- 17.1 It is anticipated that all storage materials and deliveries shall make use of the existing access and hard surfaces within the site confines, in order to avoid unnecessary damage to tree roots.
- 17.2 The locations shall be agreed in writing with London Borough of Camden prior to the commencement of works on site and will remain in only those agreed locations throughout the construction phases. If an alternative location is required, this must be agreed in writing with London Borough of Camden. This will also include the delivery, storage and movement of all essential facilities, as well as aspects such as temporary contractor vehicle parking and site location of chemical mixing (e.g.

concrete). All such locations will be outside of the RPAs and avoid areas where 'run off' of chemicals may flow into RPAs.

17.3 Material Storage

This shall be accommodated outside of the CEZ, particularly to avoid harmful spillages of fuel, or phytotoxic substances that may damage the health of retained trees.

18.0 GENERAL CONSIDERATIONS WITHIN AND OUTSIDE THE CONSTRUCTION EXCLUSION ZONE

- 18.1 Inside the CEZ formed by the protective barrier and ground protection measures, the following prohibitions shall apply:
 - No construction activity will occur within the CEZ unless otherwise stated in this report or agreed in writing with London Borough of Camden prior to the specific activity taking place.
- 18.2 In addition to the above, further precautions are necessary adjacent to trees outside the CEZ:
 - Materials, which will contaminate the soil e.g. concrete mixing, diesel oil and vehicle washings, shall not be discharged within 10 metres of the tree stem. This should take into consideration the topography of the site and slopes, to avoid materials such as concrete washings running towards trees.
 - Fires shall not be lit in a position where their flames can extend to within 5 metres of foliage, branches or trunk. This will depend on the size of the fire and the wind direction.
 - Notice boards, telephone cables or other services shall not be attached to any part of the tree (see appendix CB5 Common Causes of Damage During Construction Works).

19.0 UTILITY SERVICE CONNECTIONS

19.1 Details of service location proposals have not been forwarded to CBA Trees at the time of compiling this assessment. It is however assumed, given the location of the trees, that services will be installed outside the RPAs of retained trees, and connected to the existing where practicable, this will avoid disturbance of tree roots and ensure their healthy retention.

20.0 SOFT LANDSCAPING WORKS

20.1 Any soft landscaping works within the development area will be in accordance with the approved landscape plan, and any specification of such works approved by the local planning authority.

- 20.2 CBA Trees has not been provided with the final landscaping proposals, however all landscaping will accord with following requirements:
 - Landscaping works that are to be carried out within the RPA of Tree T2 will be after the main phase of construction has been completed. At this stage, it will be necessary to remove ground protection in order to facilitate the landscaping works.
 - The CEZ will remain off limits for all site plant and machinery unless fit for purpose ground protection is installed. Pedestrian traffic must be kept to an absolute minimum only permitted for the ground preparation and landscape installation works
 - The landscaping works will need to be undertaken in such a way as to avoid level changes, deep digging or mechanical rotovating. Excavation of planting pits with the RPA can cause serious harm the root system of retained trees. Planting pits within the RPA of retained trees will be excavated by hand to avoid roots greater than 25mm and masses of smaller roots.



Figure 1:

Root severance as a result of planting within RPA

Planting Trees and Shrubs. Watson G. W. and Himelick E. B. 1997

- If any planting pits are required within the CEZ of retained trees, these will be dug by hand and with care avoiding roots greater than 25mm diameter or masses of smaller roots.
- 20.3 Installation of turf within the CEZ will require that:
 - In all cases, existing vegetation will be removed to ground level by hand following treatment with a suitable systemic herbicide that is not toxic to existing retained trees. This prevents the build-up of methane formed as part of the composition process.
 - Stumps will be ground out to 300mm below ground level and resulting holes filled with sharp horticultural sand to provide a stable base for laying of the new turf.
- 20.4 Any surface mulch will consists of well-composted material such as bark or wood chips. This is necessary to avoid potential nutrient loss from the soil, such as

Nitrogen, as the mulch breaks down, as nutrient loss can be detrimental to the health and longevity of retained trees.

- 20.5 All work specified in the approved landscaping scheme shall be carried out before the end of the first planting and seeding season, following the occupation of any completed part of the development.
- 20.6 Any existing trees shown to be retained, or trees and shrubs to be planted as part of the landscaping scheme that are removed, die, become severely damaged beyond recovery or diseased within 2-5 years of the completion of the development (dependent on planning Conditions), shall be replaced within the next planting season with trees or shrubs of appropriate size and species that complement the existing tree stock. Where the trees in question are protected by planning controls, the local planning authority should be informed and necessary arrangements made prior to such work.

21.0 SITE MONITORING AND SUPERVISION

- 21.1 It is recommended that on-going arboricultural site monitoring takes place for the duration of the proposed development, to be carried out by a qualified and experienced arboriculturist at pre-determined and agreed time intervals, and governed by the type, timing, location and intensity of site works. London Borough of Camden to Condition site monitoring if required.
- 21.2 If Conditioned, it will take the form of regular inspections (to be agreed, but at least one visit per month during the construction phase of the development is advised, together with additional visits to supervise works within the CEZ of the retained tree). The aim of the visits is to maintain on-going liaison with all personnel involved in the site development, London Borough of Camden and its Tree Officer.
- 21.3 Any defects requiring rectification shall be notified to the Contractor/Site Manager and the client.
- 21.4 In addition, a site logbook for tree protection measures is kept to record all stages of the development from the erection of the protective barriers, right through to the completion of the project. This will be made available to the arboricultural consultant and London Borough of Camden if required, to show evidence of continuous site monitoring.

Date	Activity	Checked	Comments/ damage noted	By whom	Signed	Action taken
	Erection of protective					
	Inspection of protective barriers					

Example pro-forma

21.5 The London Borough of Camden Tree Officer (or appropriate representative) will have agreed access to the site, and will report on any problem areas directly to the developer's retained arboriculturist, who will then visit the site and make recommendations to the developer on how best to rectify the situation and ensure the implementation.

22.0 REPORT DAMAGE TO TREES AND TREE PROTECTION BARRIERS

- 22.1 Should any damage be caused to trees noted for retention, either by the above works or as the result of any other action, the damage should be reported to the site supervisor immediately. The site supervisor shall report up the chain of responsibility to the retained consultant arboriculturist, or in the absence of such an appropriately qualified arboriculturist, to enable remedial measures to be implemented as necessary and as agreed with London Borough of Camden.
- 22.2 Should damage occur to a protective barrier to impair its function in protecting trees, all work will cease near the damage, until the barrier has been returned to standard.

23.0 REMOVAL OF PROTECTIVE BARRIERS

- 23.1 When the development phase is complete, all drainage and service runs are in place, all site machinery has been removed and any landscaping for the principal area of the site has been implemented, the protective barriers will be dismantled.
- 23.2 This barrier dismantling must be undertaken with great care and will need to be supervised to avoid heavy machinery being used within the Root Protection Areas. Hoarding, scaffolding and other barrier materials will need to be removed from site immediately.

24.0 COMPLETION MEETING

24.1 Upon completion of all the works specified above, and in line with procedures also specified, the retained arboricultural consultant will invite London Borough of Camden Tree Officer to meet on site, to discuss the project and to agree on any remedial works required.

25.0 CONCLUSIONS

- 25.1 The development proposals for the construction at 19-37 Highgate Road, Kentish Town have been assessed broadly in accordance with BS5837:2012 *"Trees in Relation to Design, Demolition and Construction Recommendations"*.
- 25.2 It is our opinion that the identified tree loss will not have a detrimental effect on the local visual amenity or significantly alter the visual treed character of the local area, if a landscaping scheme that includes quality trees, selected to suit the site conditions and the space available, is implemented.

25.3 Provided the recommendations included within this report are strictly adhered to, CBA Trees believes the trees highlighted for retention within this report can be retained without undue stress on their long-term health.

26.0 CONTACT LIST

- 26.1 It is suggested that points of contact and lines of communication are established prior to commencement of the works on site including:
 - Arboricultural Consultant
 - Project Architect
 - Highways Engineer
 - Structural Engineer
 - Drainage Engineer
 - Landscape Architects
 - London Borough of Camden's Tree Officer
 - London Borough of Camden's Planning Case Officer
 - Site Supervisor and Foreman
- 26.2 It is advised that the site supervisor establishes their own listing of contact details at the pre-start site meeting and displays this in their office for general use as necessary.

27.0 BIBLIOGRAPHY

- British Standard 5837:2012 –
 "Trees in Relation to Design, Demolition and Construction Recommendations"
- British Standard 3998:2010 –
 "Recommendations for Tree Work"
- National Joint Utilities Group Publication Volume 4 "Guidelines for the planning, installation and maintenance of utility services in proximity to trees"
- Wildlife and Countryside Act 1981
- Conservation of Habitats and Species Regulations 2010 (as amended)
- Town and Country Planning Acts







TREE SURVEY NOTES

This Tree Survey has been undertaken within the recommendations of British Standards 5837:2012 and current arboricultural best practice.

- > Each tree has been numbered and, where instructed, for future identification on site, has been tagged using small durable metal or plastic tags.
- > Due to variations of existing ground levels through the site, height dimensions are estimated and are given in metres. Accurate heights, measured with the aid of optical instruments can be provided where instructed.
- Trunk/stem diameters are measured in mm at 1.5 metres above ground level, using a standard measuring tape as defined by British Standards, unless otherwise stated.
- Estimated branch spread is taken in metres from the centre of the trunk, at the four cardinal points of a compass, to achieve an accurate representation of the crown shape which will be recorded on the tree survey plan.
- > An assessment of a tree's age classification is made in terms of its maturity within the site's landscape and defined as:
 - Y = young trees
 - SM = semi-mature trees
 - EM = early mature trees
 - M = mature trees
 - OM = over-mature trees
- > An assessment of a tree's physiological condition is defined as:
 - Good = fully functioning biological system showing average vitality i.e. normal bud growth, leaf size, crown density and wound closure
 - Fair = fully functioning biological system showing below average vitality i.e. reduced bud growth, smaller leaf size, lower crown density and reduced wound closure
 - Poor = a biological system with limited functionality showing significantly below average vitality i.e. limited bud growth, small and chlorotic leaves, low crown density and limited wound closure
 - Dead = dead
- An assessment of a tree's structural condition is defined as:
 - Good = no significant structural defects
 - Fair = structural defects which could be alleviated through remedial tree surgery or management practices
 - Poor = structural defects which cannot be alleviated through tree surgery or management practices
 - Dead = dead

> An assessment of a tree's future life expectancy is defined as: <10, 10+, 20+ or 40+ years.

Categorisation of Trees

The category for each tree is assessed using the recommendations of BS5837:2012. The assessment has not considered any site-specific development proposals, but will have considered any changes on or off-site which may have an effect on the conditions surrounding the surveyed trees.

The trees have been classified into one of the following categories (and one or more sub-categories [this will however not increase the value of the tree]) and are indicated on the associated drawings by colours as indicated.

Category U				Identification colour on plan								
Trees 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	 Trees that have a serious, irremediable, structural d those that will become unviable after removal of oth companion shelter cannot be mitigated by pruning) Trees that are dead or are showing signs of signification. Trees infected with pathogens of significance to the suppressing adjacent trees of better quality 	 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) 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, or very low quality trees suppressing adjacent trees of better quality 										
Category A	1 – Mainly arboricultural values	2 – Mainly landscape values	3 – Mainly cultural values	Identification colour on plan								
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)	LIGHT GREEN								
Category B	1 – Mainly arboricultural values	2 – Mainly landscape values	3 – Mainly cultural values	Identification colour on plan								
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 down-graded 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 value or other cultural value	MID BLUE								
Category C	1 – Mainly arboricultural values	2 – Mainly landscape values	3 – Mainly cultural values	Identification colour on plan								
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm	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	GREY								

Clients are advised that Tree Surveys are a basic data collection exercise and record of tree condition at the time of survey. This will identify any visible signs of ill-health or major defects, advising a further detailed investigation where appropriate. This will most often take the form of a request for either "*full ground level inspection*" or "*climbing inspection required*". There may also be a further reference to the need for "*decay detection equipment*" to aid diagnosis. A tree survey does not include a comprehensive schedule or specification of remedial tree works, but may contain a guide to the work which might be undertaken by a prudent tree owner, purely for reasons of health and safety.

A Tree Survey should not be confused with a Tree Inspection or Arboricultural Implication Assessment, which are totally separate exercises.

CBA11577

		TREE SURVEY REPORT (BS5837:2012)								
	Site:	19-37 Highgate Road								
	Date:	15th November 2021								
CBA	Consultant:	Dominic Poston F.Arbor.A, MICFor, CEnv, Prof Dip (RFS), BSc (Hons), HND								
Trees	Tagged:	No								

Notes:

1. It may be advised that some trees should have the ivy removed to enable a re-survey to be carried out. This would also alleviate the tree from becoming suppressed; carrying additional weight that increases the chance of windthrow due to a larger dense crown area; and only receiving restricted light. Unless otherwise stated, in order to prevent regrowth, it is only necessary to remove a 300mm section of ivy and clear around the base.

2. It may be advised that it was only possible to estimate the diameter of some trees because of ivy smothering, dense vegetation, or trees located off-site with no access.

3. The estimated remaining contribution in years, and the tree grading category have been calculated for the current situation and may alter where further investigation works are advised.

4. Some trees or groups may have been given an interim grade. The reason for the interim grading is addressed in the timescales given as this may have a bearing on health and safety and/or any development proposals.

5. Tree Groups have been assessed with estimated and representative data.

6. This is not a Tree Works Schedule. Any preliminary management recommendations are listed in the interests of health and safety and should be carried out by a prudent tree owner.

Any management recommendations are suggested for reasons of health and safety only, regardless of development proposals at this stage. However, the defects requiring remedial tree surgery are by their very nature potential wildlife habitats, including protected species which needs consideration prior to any tree surgery works commencing.
 The data collected and any advice provided within this report is supplied in the interests of sound arboricultural management. Trees are a living dynamic organism that can be affected by external conditions (high winds, storms, snow, heavy rain or drought) and may occasionally fail without warning. It is therefore not possible to state with any certainty that any tree or group of trees is completely safe. The condition of a tree or group of trees can change rapidly as a result of external factors; we would advise that the occupier/ owners inspect the trees at least every 12 months or following periods of extreme weather and where concerns are raised relating to tree health that would be considered beyond the knowledge of a layperson, further arboricultural advice should be sought.

TREE PRESERVATION ORDER / CONSERVATION AREA STATUS: CBA Trees has not been instructed to ascertain whether there are legal restrictions pertaining to the trees.

Tree No	Species	H't (m)	Single/ Multi- Stemmed (S or MS)	Stem Diam (mm)	N	Bra Spr (r E	nch read n) S	w	N	H't of A((r E	Crown GL n) S	w	Life Stage	Physio- logical Condition	Structural Condition and General Observations	Preliminary Management Recommendations	Est. Rem. Contrib. (Yrs)	Cat
1	Norway Maple Acer platanoides	11	S	290	6.0	6.0	6.0	6.0	2.0	2.0	2.0	2.0	SM	Good	Good Stem trifurcates at 2m above ground level Fine specimen with good long term potential	No works required at time of survey	40+	B1
2	Tree of Heaven Ailanthus altissima	8	MS<5	400	6.0	6.0	6.0	6.0	2.0	2.0	2.0	2.0	Μ	Good	Fair Located in church grounds Growing close to boundary wall and disrupting tarmac surfacing Invasive species Prominent tree	No works required at time of survey	40+	B1
3	Tree of Heaven Ailanthus altissima	7	S	150	2.5	2.5	2.5	2.5	2.0	2.0	2.0	2.0	Y	Good	Good Self-seeded specimen from T2 Growing unsustainably close to, and encroaching upon, building	Fell	20+	C2
4	Himalayan Cotoneaster Cotoneaster frigidus	5	MS<5	230	3.0	3.0	3.0	1.0	2.0	2.0	2.0	2.0	Μ	Good	Fair Growing in low raised bed Asymetric form due to group pressure Ornamental planting	No works required at time of survey	20+	C2
5	Flowering Cherry Prunus spp	9	S	300	4.0	4.0	4.0	1.5	3.0	3.0	3.0	3.0	SM	Fair	Fair Growing in low raised bed Asymetric form due to group pressure Unable to inspect fully due to dense basal growth Ivy on stem	Clear basal vegetation/ ivy to permit inspection	20+	C2
6	Purple Leaved Plum Prunus cerasifera 'Atropurpurea'	7	S	175	3.0	3.0	3.0	0.5	3.0	3.0	3.0	3.0	SM	Fair	Fair Growing in raised bed Asymetric crown due to group pressure Poor form	No works required at time of survey	20+	C2

Tree No	Species	H't (m)	Single/ Multi- Stemmed (S or MS)	Stem Diam (mm)	N	Bra Spr (r E	nch read n) S	N	N	H't of A((r E	Crow GL n) S	n W	Life Stage	Physio- logical Condition	Structural Condition and General Observations	Preliminary Management Recommendations	Est. Rem. Contrib. (Yrs)	Cat
G1	Mixed species	6	MS<5	100	-	-	-	-	-	-	-	-	SM	Fair	Fair Dense group including Maple, Plum, Cherry, Laburnum and Budleija growing in raised bed	No works required at time of survey	20+	C2





CBA11577

		BS5837:2012 TREE ROOT PROTECTION AREA SCHEDULE
	Site:	19-37 Highgate Road
CBA	Date:	15th November 2021
Interview	Consultant:	Dominic Poston F.Arbor.A, MICFor, CEnv, Prof Dip (RFS), BSc (Hons), HND

Notes:

1. This is an assessment of the Root Protection Area (RPA) required, based on the individual tree data collected and Section 4.6.1 of BS5837:2012.

2. For all single stem trees with a stem diameter greater than 1250mm, and multi-stem trees with a stem diameter greater than 1500mm, the calculated RPA has been capped at 707m2 in accordance with Section 4.6.1 of BS5837.2012.

TREE PRESERVATION ORDER / CONSERVATION AREA STATUS:

CBA Trees has not been instructed to ascertain whether there are legal restrictions pertaining to the trees.

Tree No	Species	Category	Single/ Multi-Stemmed (S or MS)	Stem Diameter (mm)	Initial Linear Root Protection Distance (Radius m)	Root Protection Area (m2)
1	Norway Maple Acer platanoides	B1	S	290	3.5	38
2	Tree of Heaven Ailanthus altissima	B1	MS<5	400	4.8	72
3	Tree of Heaven Ailanthus altissima	C2	S	150	1.8	10
4	Himalayan Cotoneaster Cotoneaster frigidus	C2	MS<5	230	2.8	24
5	Flowering Cherry Prunus spp	C2	S	300	3.6	41
6	Purple Leaved Plum Prunus cerasifera 'Atropurpurea'	C2	S	175	2.1	14
G1	Mixed species	C2	MS<5	100	1.2	5





B
Existing boundary treatment to act as tree protection
Area and a second se



TREE WORKS SCHEDULE			
Site:	e: 19-37 Highgate Road		
Date:	November 2021	Consultant:	Dominic Poston F.Arbor.A, MICFor, CEnv, Prof Dip (RFS), BSc (Hons), HND

Tree No.	Species	Recommended Works
1	Norway Maple Acer platanoides	Removed
2	Tree of Heaven Ailanthus altissima	Lateral crown reduction
3	Tree of Heaven Ailanthus altissima	Removed
4	Himalayan Cotoneaster Cotoneaster frigidus	Removed
5	Flowering Cherry Prunus spp	Removed
6	Purple Leaved Plum Prunus cerasifera 'Atropurpurea'	Removed
G1	Mixed species	Removed

- It is advised that all remedial tree works such as pruning is carried out between July and September or November and February. Tree works should also avoid the season for nesting birds.
- All tree works should be carried out in accordance with current best practice guidelines and BS3998: 2010 Tree Works. Only natural target pruning method to be used.
- We recommend the use of an Arboricultural Association Approved Contractor or an ISA Certified Arborist/Tree Worker suitably insured and experienced to carry out the tree works.





SUMMARY OF

TREE PROTECTION MEASURES

Introduction

This leaflet shall be issued to all site personnel as part of their induction briefing.

It describes in summary form, the precautions that site personnel shall at all times follow, to ensure that the existing trees on the site come to no harm.

The precautions described are neither arbitrary nor reducible and must be adhered to in full.

These precautions are necessary because unprotected trees are very vulnerable to damage during demolition and construction works.

Furthermore, many of the trees on the site are under LEGAL PROTECTION and damaging them can result in heavy fines.

Two common misconceptions about trees:

MYTH: Trees have deep taproots and so shallow excavations will not harm the tree.

FACT: 90% of all tree's roots are found in the top 600mm of soil; all excavations near to trees are likely to cause root damage which can kill the tree.

MYTH: Trees will quickly heal over any bark wound, with no ill effect.

FACT: Bark wounds take years to heal and larger ones never do; missing bark can lead to disease and even the death of the tree.

Tree Protection

All trees adjacent to unsupervised work areas have been protected by fencing.

This fencing must be respected at all times and no attempts shall be made to damage, bypass or ignore it.

In areas designated for supervised working, no works shall be undertaken without the supervisor being present or without him/her issuing a "carry on" chit.

Prohibitions Adjacent to Trees

Inside the exclusion area of the tree protection, the following prohibitions shall apply.

- No digging or scraping
- No storage of plant or materials
- No vehicular access
- No fire lighting
- No handling, discharge or spillage or any chemical substance
- No water-logging

In addition to the above, further precautions shall be taken near to trees.

- A 10m separation distance shall be observed between trees and any substance injurious to their health, including fuels, oil, bitumen, cement (including washings) builders' sand, concrete mixing and other chemicals.
- No fire shall be lit such that flames come within 5m of any foliage; this shall be taken to mean a fire separation distance to the leaves of 20m.

Avoiding Damage to Stem and Branches

Care shall be taken when planning site operations to ensure that wide or tall loads or plant with booms, jibs and counterweights, can operate without coming into contact with trees.

Consequently, any transit or traverse of plant in proximity to trees shall be conducted under the supervision of a spotter to ensure that adequate clearance is at all times maintained.

In some circumstances, it may be impossible to achieve this, necessitating the pruning of the tree.

If this is necessary, a specialist team shall be called in following referral to the project Arboriculturist.

No tree pruning shall be undertaken by demolition or construction personnel.

Asking for Help

If you see any damage to a tree or its protective fencing, or if you need a tree pruning for plant clearance, contact **CBA Trees** as follows:

Office Telephone: 02380 986229

REMEMBER: ALL TREE DAMAGE IS AVOIDABLE – SO AVOID IT!



PROTECTIVE BARRIERS. THESE BARRIERS MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND DRAWINGS FOR THIS DEVELOPMENT.



TREE PROTECTION AREA KEEP OUT !

(TOWN & COUNTRY PLANNING ACT 1990) TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A TREE PRESERVATION ORDER. CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION

ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY

COMMON CAUSES OF TREE DEATH

The use of properly positioned protective barriers can prevent tree deaths occurring.







The Professional Arboricultural Consultancy

Qualifications of Dominic Poston Senior Consultant

Dominic Poston *F.Arbor.A. MICFor, CEnv, Prof Dip (RFS), BSc (Hons), HND* joined CBA Trees in 2015 as a Senior Consultant and brought with him a wealth of knowledge and experience. He has over 17 years' experience of undertaking a variety of arboricultural assessments for a wide range of public, corporate and private clients.

Having attained a Bachelor of Science Degree in Horticulture, a Higher National Diploma in Landscape Management and the prestigious Royal Forestry Society's Professional Diploma in Arboriculture, Dominic is now a fellow of the Arboricultural Association, a Chartered Arboriculturist and Chartered Environmentalist and has attained Registered Consultant status with the Institute of Chartered Foresters.

He has considerable experience as an advisor to planning teams, currently acting as lead arboriculturist on three high volume (<1000units) active development sites in East Anglia as well as several smaller developments nationwide.

Dominic has appeared numerous times at planning related Public Inquiries, and also undertakes advocacy at Inquiries on behalf of Rule 6 parties. Additionally he has been instructed as an expert witness on several occasions to assist local authorities with prosecutions for offences under Tree Preservation Order legislation, and has appeared at Crown Court.