Arboricultural Impact Assessment

At

Parliament Hill School, Highgate Road, London, NW5 1RL

Gardiner & Theobald LLP

Address	Parliament Hill School, Highgate Road, London, NW5 1RL		
Client	Gardiner & Theobald LLP	**Client Ref**	
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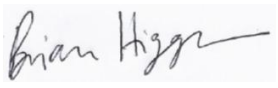
Technical Arboriculture Approved **Brian Higginson M.Arbor.A Dip.Arb(RFS)**			

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Report Caveats

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Specific - Trees

All tree inspections, unless specified, have been undertaken from ground level and using non-invasive techniques. Comments contained within the report on the condition and risk associated with any tree relate to the condition of the tree at the date and time of survey. Please note that the condition of trees is subject to change. This change may occur, but is not limited to biological and non-biological factors as well as mechanical/ physical changes to conditions in the proximity of the tree. Trees should be inspected at intervals relative to identified site risks and in accordance with relevant HSE and Central Government guidance. Environmental Services can provide further information on this matter if required.

Please note no statutory control checks have been undertaken (unless specified). Where tree surgery works have been identified these works are based on the assumption that planning is approved, no tree works should be undertaken prior to determination of this application without up to date confirmation of the Tree Preservation Order / Conservation Area Status of the vegetation. All works should be undertaken in accordance with the appropriate Duty of Care. This should include, for example, site specific risk assessments and due diligence inspections for the presence of protected species.

Any comment relating to 3rd party trees has been made without full access to the tree(s). Should these trees have any impact on the proposed development we would advise you to instruct us to contact the 3rd party and undertake further inspection work.

1.0 Introduction

1.1 Environmental Services have been appointed by Gardiner & Theobald LLP to provide advice on the arboricultural issues relating to the proposed development of the above site.

1.2 We undertook a Pre-Development Tree Condition Survey (see Appendix 1), on 23rd and 24th September 2013, using the original site topographical survey, and again on the 25 October 2013, using the updated topographical survey. These survey's assessed the condition of the tree resource to the front and rear of Parliament School, categorised the trees and provided the Root Protection Area (RPA) information according to the BS5837:2012 "Trees in relation to design, demolition and construction – Recommendations".

1.3 Following preparation of our Tree Condition Survey we received a confirmed layout proposal for the site for two development areas, one for a new sixth form centre to the front of the school on the old tennis courts, the other to the rear of the school within the courtyard area to provided updated and additional teaching space to replace older classroom buildings.

1.4 We have been informed by London Borough of Camden Council that there are no trees subject to statutory protection under a Tree Preservation Order, however the site is located within Dartmouth Park Conservation Area.

1.5 The tree numbers used in this report refer to the tree numbers used in our Tree Condition Survey.

1.6 The site layout plans and subsequently the tree protection plan has been further revised following a site meeting held with the Camden Tree Officer on the 21 August 2014.

2.0 Executive Summary

2.1 The school is located on the edge of Hampstead Heath within the London Borough of Camden. The school has previously added two new buildings, one of these has created spaces for the teaching of new technologies and the other has performing arts spaces. Both these building have won architectural awards. In 2004, its enrollment was 1190 students, between the ages of 11 and 18

2.2 The site is surrounded around each boundary with mature trees mainly growing in linear groups of modest to high amenity value with younger trees located within the site amongst the existing buildings, most of lower quality and landscape value. The trees with the highest amenity value, viewable from the public realm are:

- Those on the north eastern boundary with Highgate Road
- The Line of Lombardy Poplars on the southern site boundary backing onto residential properties in Lissendon Gardens
- The two linear tree groups to the west of the site backing onto Hampstead Heath; TG2 & TG3
- The line of trees T73-T96 that separate the Parliament Hill School to the adjacent William Ellis School to the north.
- The large London Plane and Horse Chestnut trees located at the site entrance of the school with Highgate Road.

2.3 The development proposal is to demolish some of the existing buildings to the south and west of the site and construct new educational buildings in their place and a new sixth form centre building to the front of the school upon the old tennis courts, with associated access, car parking and landscaping.

2.4 As many of the 'A' and 'B' higher amenity value trees, viewable from the public realm will be proposed to be retained and protected with mostly those 'C' and 'U' category individual trees and groups identified for removal and replacement. Some individual trees to the west of the school within the central courtyard will be in conflict with the development proposal and will need to be felled and replaced. However, the best trees in this location; T34,T38, T40 and T41 have been identified for retention. T19 and T21, Silver Birch, are also now looking to be retained as they were assessed as being 'B' category trees.

2.5 During the gales of October 2013 the school suffered storm damage to two trees, T116, Cherry which was windblown and T62, Lombardy Poplar, which suffered a major leading stem failure. Both trees have been felled and stumps appropriately treated or removed completely.

2.6 During the most recent site meeting of August 2014 with the tree officer, three additional trees were in need of re-classifying as 'U' due to a decline in the health & condition. These were: T82, T92 and most dramatically T115, Horse Chestnut. These will now need to be felled.

2.7 A summary of the affected trees is detailed in the table below:

Impact	Reason	A	B	C	U
Trees to be removed	To facilitate the development or due to their condition (U cat)		*T16, T23, T42, T43, T45, T121*	*T1, T6, T7, T8, T9, T10, T12, T13, T14, T15, T17, T22, T30, T31, T32, T35, T36, T44, T46, T49, T50, T68, T69, T78, T81,T101*	*T18, T20, T24, T33, T37, T39, T51, T52, T62, T82, T88, T92, T99, T105, T115, T116*
Trees with RPA encroachment	To facilitate construction	*T47, T48, T126*	*T2, T3, T4, T19, T21, T34, T38, T40, T41, T56, T57, T58, T59, T60, T61, T63, T64, T65, T66, T70, T71, T72, T73, T77, T83, T86, T87, T93, T95, T108, T110, T117, T120, T122, T123, T127, T128*	*T5, T53, T54, T55, T67, T74, T75, T84, T85, T89, T90, T91, T94, T96, T97, T98, T100, T102, T103, T104, T106, T107, T118, T119, T124, T125, T129*	/

3.0 Scope of Tree Survey

3.1 To carry out a tree condition survey on the trees and hedgerows at and immediately adjacent to the site, identifying any hazard trees and making recommendations for those trees to be retained and low amenity value and hazard trees to be replaced.

3.2 To undertake the tree survey in accordance with the principles of BS5837: 2012 'Trees in relation to design, demolition and construction – Recommendations'.

3.3 To produce a tree constraints plan (TCP), showing the location of surveyed trees and their BS5837: 2012 categorisation, the theoretical Root Protection Areas (RPA).

3.4 To carry out an arboricultural impact assessment on the effect of the new development at the site identifying the construction exclusion zones (CEZ) shown on the tree protection plan (TPP). This will also show the locations for tree protective fencing, any temporary ground protection required and identify 'No-Dig' zones for RPAs shown outside of CEZs.

3.5 The purpose of this report is to comment on the arboricultural implication of the proposed development and to aid the preservation of trees to be retained at and adjacent to the site during the construction works by setting out the tree protection methods, construction techniques and working practices that are to be adopted on this site.

3.6 If the guidelines and principles outlined in this report are not adhered to, as with all development sites there is a risk that the construction activities will result in damage to and potentially the death of the retained trees. Damage to the trees will significantly increase the risk of their health declining and may increase the risk of their complete or partial failure.

4.0 Terms of Reference

4.1 Reference Documents:

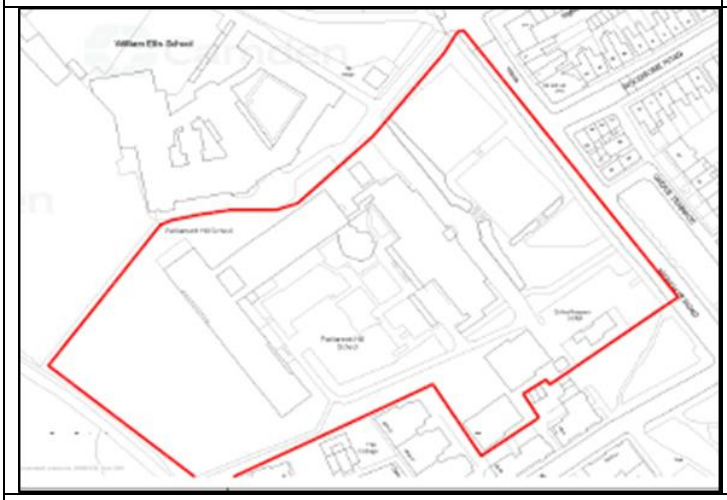
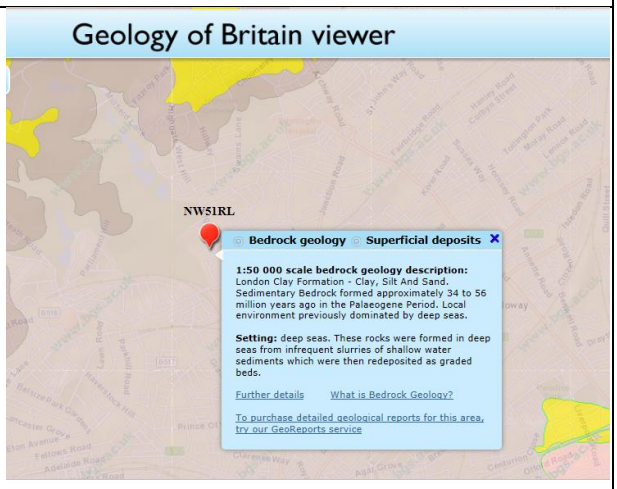
- BS5837:2012 'Trees in relation to design, demolition and construction – recommendations'
- BS3998:2010 'Tree work – recommendations'
- NJUG 4 – National Joint Utilities Group "Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees. Volume 4, issue 2. London: NJUG 2007"
- Information from the London Borough Camden Council local plan and website
- BGS Open Source Soil Data http://www.bgs.ac.uk/nercsoilportal/maps.html

5.0 Description of Site and Proposed Works

5.1 The site consists of new and old educational buildings sandwiched between Highgate Road to the east and Hampstead Heath to the north and west. The school is separated from William Ellis School to the north by a linear tree group numbered T73-T96.

5.2 The immediate and distant landscape character is one or urban mixed residential, educational, leisure and retail with the school screened to and from views of Hampstead Heath to the north and west by strong and mature linear groups of boundary trees.

5.3 The topography of the site is split level with areas of level ground, undulating grass areas and a gently sloping access up to Highgate Road. The site levels to the west as it merges into Hampstead Heath. The development area in the central courtyard has been heavily hard landscaped with new mounds of grassed lawn areas, hard paving, retaining structures and seating. The old tennis courts to the front of the school are on a much higher level than that of the old school building.

Site Location (OS)	Site Location (BGS Soil)
	

Summary

5.4 The soils in relation to the site are known to be London Clay Formation - Clay, Silt and Sand (British Geological Survey – online) http://mapapps.bgs.ac.uk/geologyofbritain/home.html

5.4 The underlying site soil has been identified as CLAY and great care should therefore be taken to ensure no compaction of the soils within the identified RPA's as this soil type is less favourable to tree root growth/ moisture movement and aeration.

5.5 All comments regarding soils should be verified with onsite geotechnical investigations and laboratory testing with foundation depth and design undertaken by a structural engineer in accordance with the requirements of NHBC Chapter 4.2.

6.0 The Trees

6.1 **Tree Numbers:** There were 130 Individual trees, 8 tree groups and 1 shrub group surveyed onsite or immediately adjacent to the site boundary. These trees can be grouped into 5 distinct locations:

- T1 – T15, T108-T121 & TG7 & SG1 — Trees on the eastern site boundary at the vehicular and pedestrian site entrance.
- T16 – T52 & TG1 — Trees within the central courtyard between the old Morant building and the Heath building.
- TG2 & TG3 — Trees on the western site boundaries with Hampstead Heath
- T73-T96, T130 & TG4 — Trees in a linear group separating Parliament Hill School with William Ellis School
- T97-T108, TG5 & TG6 — Trees in a linear group between the boundary with Highgate Road and the old tennis courts
- T109-T115 — Mature trees of high amenity value in a group on the site northern boundary by the pedestrian entrance. With Highgate Road.
- T116-T121, SG1 & TG7 — Mature trees located on a steep bank between the tennis courts and the old Morant Building.
- T122-T128 & TG8 — Mature offsite boundary trees located within Hampstead Heath overhanging the northern boundary. 3rd party owned and managed.
- T129 & T130 — Two trees on / close to the William Ellis School site

6.2 The trees can be summarized as follows:

BS 5837 Cat	A	B	C	U
Individual Tree Total Numbers	4	50	61	15
Tree Groups	/	2	7	/

6.3 **Amenity Value:** The trees on site, when viewed from the public realm, have high amenity value predominantly as linear tree groups, when viewed from Highgate Road to the north and east, and from Hampstead Heath, when viewed from the west. Some individual standard trees within grass highly used by pedestrians lawns have primarily a skyline contribution to the immediate landscape character, particularly from the west from Hampstead Heath. Such trees are the Lombardy Poplar linear group on the southern site boundary, T56-T72 and the prominent and tallest trees within the central courtyard area between the Morant Building and the Heath Building, T34, T38 and T40 & T41.

6.4 Views into the site from the Hampstead Heath, residential properties off Lissenden Gardens Highgate Road are all screened by trees providing a useful visual and noise barrier to and from the school.

7.1 Tree Removals

7.1.1 The following 48 trees will be removed to facilitate the development

Impact	Reason	A	B	C	U
Trees to be removed	To facilitate the development or due to their condition (U cat)	/	*T16, T23, T42, T43, T45, T121*	*T1, T6, T7, T8, T9, T10, T12, T13, T14, T15, T17, T22, T30, T31, T32, T35, T36, T44, T46, T49, T50, T68, T69, T78, T81,T101*	*T18, T20, T24, T33, T37, T39, T51, T52, T62, T82, T88, T92, T99, T105, T115, T116*
Totals		/	**6**	**26**	**16**

7.1.2 Every effort has been made to reduce the removal of trees from the site. However, to mitigate the tree loss proposed, the Local Planning Authority is invited to secure a detailed Landscaping Proposal by way of Planning Condition.

7.2 Root Protection Area (RPA) Incursions

7.2.1 The following incursions into the RPA's of trees to be retained have been identified:

BS 5837 Cat	A	B	C
Trees with RPA encroachment	T47, T126	T47, T48, T126	T2, T3, T4, T19, T21, T34, T38, T40, T41, T56, T57, T58, T59, T60, T61, T63, T64, T65, T66, T70, T71, T72, T73, T77, T83, T86, T87, T93, T95, T108, T110, T117, T120, T122, T123, T127, T128

7.3 Foundations

7.3.1 **New building foundation design:** Where retained trees are within a known proximity to trees of high water demand, ie. The Lombardy Poplars, and the soil conditions are known to be of shrinkable clay, this site specific condition can give rise to the need for specialized foundation design to avoid the potential for future tree related subsidence to occur.

7.3.2 According to information from the BGS, the soil appears to be a shrinkable London clay. Therefore the design of foundations should carefully be considered by a structural engineer where established trees are being removed to avoid the risk of 'heave' and new foundations being designed close to

large mature retained trees, in particular the Lombardy Poplar as previously stated, to avoid future problems associated with tree related subsidence.

7.3.3 To minimise the impact on the trees and to help ensure buildings do not suffer from indirect foundation subsidence from retained trees, it is proposed that the foundation design will be pile and beam.

7.3.4 Final decisions as to the risks presented by retained / removed trees upon adjacent new buildings should be subject to detailed site geotechnical information being available, assessed by a structural engineer.

7.3.5 The Lombardy Poplars, T56-T63 along the southern site boundary are within the current influencing distance of the Heath building and potentially of the building to replace it. Given that in 90 of recorded cases Poplar trees, that caused tree related subsidence to buildings, were closer than 20m, it is advised that this distance should be maintained and / or detailed foundation design by a structural engineer given the potential for shrinkable London clay on the site. Also given the height of these trees, also around 20m, and that they tend to shed major leading stems as they senesce, a 20m separation distance from a health and safety point of view is also advisable.

7.3.6 All the mature trees within the courtyard area proposed to be retained as described above, between the Morant building and the Heath building, have similar impact potential to the proposed new buildings close to their RPA's on both foundation design, excavations for new services, protection during construction an current and future crown maintenance regimes.

7.3.7 The two large 'B' category trees, T76 – Cedar, and T77 – Sycamore, both have the potential to affect and be affected by any demolition of existing buildings and construction of new buildings close to their RPA's. T77 in particular is close to the existing building to be demolished so great care will need to be taken during demolition, supervised by the Environmental Services consultant arboriculturist according to an approved arboricultural method statement.

7.3.8 The details for the proposed Sixth Form Centre development to the front of the Morant building upon the old tennis courts are now fully known. In terms of trees required to be retained the linear group of Blue Atlas Cedar T93-T95 provide a constraint in terms of the extent of their RPA's into the development area. This also applies to the prominent trees along the boundary with Highgate Road, T97-T108. Many of these trees are 'topped' Lime trees with limited safe useful life expectancy and one large Horse Chestnut, T105, has been classified as a hazard tree and has been removed in October 2013.

7.4 Surfaces

7.4.1 **Special Surfacing:** The use of 'no / reduced' dig cellular confinement surfacing is recommended where new pedestrian footpaths or cycleways are required to pass within or adjacent to retained trees RPA's at T38-T41, T93-T95, T53, T56 & T57 and T66-T72, T73 & T74, T97-T103. This is likely where new site pedestrian access arrangements are proposed within the RPA's of retained trees. The construction of this surfacing should be in accordance with detailed site specific arboricultural method statements with all works delivered and supervised by Environmental Services..

7.4.2 To minimise the disruption on the retained trees it is proposed to install a 'reduced / no-dig' surface in the areas indicated on the Tree Protection Plan. These surfaces sit above ground level after surface vegetation removal and ensure no tree roots are severed during their installation.

7.4.3 The Local Planning Authority is invited to secure full details of the proposed surface by way of a Site Specific Method Statement/ please refer to the accompanying Site Specific Method Statement for full detail on the proposed installation.

7.5 Services

7.5.1 The route of any services needs to be carefully considered so as to avoid unnecessary encroachment into retained trees RPA's.

7.5.2 These should, where possible, not encroach within the RPAs of retained trees, and currently the precise location of new excavations for services is not known. Where excavations slightly encroach into adjacent tree RPA's their excavation should only be considered when supervised by the consultant arboriculturist from Environmental Services and may need to be undertaken using an 'Airspade' / hand tool combination.

7.5.3 The Local Planning Authority is invited to secure full detail on the proposed service routes and form of installation by way of appropriate Planning Condition.

7.6 Ground Levels

7.6.1 Issues surrounding severe changes in levels, mounding, retaining walls, slopes and hard landscaping features apply to both the development areas to the front and rear of the Morant building on this site. Any alterations to levels close to or within the RPA's of retained trees should be avoided and this includes hard landscaping features such as new footpaths, retaining walls and works of art. Arboricultural methods and site supervision can be provided as part of any Site Specific Method Statement report (SSMS) required to discharge any conditions of any future planning approval for the site.

7.7 Shading

7.7.1 Where retained trees are located south of new buildings the shade they cast have the potential to constrain them and cause a 'pressure to prune' such trees. This undesirable consequence applies particularly to the linear group of Lombardy Poplar along the southern site boundary, T56-T63, as their shading arcs could extend up to 30m into the development area.

7.8 Site Supervision/ Monitoring

7.8.1 Most damage to trees on developments sites is caused inadvertently and to ensure continued protection during development a system of site monitoring is proposed.

7.8.2 Basic checks will ensure that protective fencing remains intact. Any unforeseen issues can also be identified and discussed before damage to the tree(s) occurs.

7.8.3 The Local Planning Authority is invited to secure the following schedule by way of Planning Condition. To be effective the Local Planning Authority must provide us with a copy of the formal Decision Notice to ensure we can then contact and follow up the proposed monitoring. A copy of the Decision Notice should be emailed to planning@innovation-environmental.co.uk . The number of proposed visits is driven by the scale of the proposal

7.8.4 A more detailed explanation of what will be assessed during the proposed monitoring visits is contained in Appendix 5.

8.0 Recommendations

8.1 The preliminary treeworks recommended are included in the tree tables contained within this report within the tree works schedule at Appendix 5.

8.2 That during the construction build phase, following current consultation with the arboriculturist, adequate provision is made for the protection of existing trees on site and the areas to be planted with new trees and shrubs.

8.3 That by liaison with the council tree officer, formal agreement should be sought regarding the tree pruning required and tree protection methods employed to protect retained trees. These will be via the production of a site specific method statement (SSMS) and will include:

- Tree protective fencing as shown on the tree protective plan
- No ground excavations within tree RPAs, unless approved by the tree officer
- Any anti-compaction measures taken
- The specific location of services trenches where possible to avoid excavations within RPAs, or if necessary to be undertaken by hand dig only
- Specific methods for construction of site access routes and new drainage ditches close to or within retained trees RPAs

8.4 Pre-commencement site meetings should be arranged to discuss the recommendations in this and subsequent reports and method statements. Copies of all relevant arboricultural reports should be available on site.

8.5 The SSMS should be developed further with the contractor through the development process to include comments made by them and the client and design team as well as council officers. A copy of the tree report, including the site specific method statements and tree protection plan is kept on site at all times.

8.6 That details of site inspection / supervision visits by the consultant arboriculturist are recorded and sent to the council tree officer with copies retained by the site manager.

9.0 Conclusions

9.1 The site is located within an urban landscape setting, there are many significant amenity value trees on site. Most of which are 'B' and 'C' category standard trees located in linear groups around the site boundaries. The dominant individual tree species on this site is London Plane, Lombardy Poplar, Horse Chestnut, Lime with Sycamore, Beech and Cherry as other standard trees present. It is not known at the time of writing the report if any of the trees are protected by Tree Preservation Orders, this is still to be confirmed by the Council. Most of the trees are in need of some basic crown pruning works due to their lack of recent management.

9.2 Only 6 'B' category trees are now required to be felled as in conflict with the revised proposed development. Twenty six 'C' category individual trees currently have been recommended to be removed due to their poor condition / or in conflict with the proposed development. One poor condition tree/shrub group, TG1, also need to be removed. Sixteen trees are 'U' category and should be felled regardless of the constraining development.

9.3 Tree protection measures, including the use of temporary ground protection and / or cellular confinement sub-base systems for the construction of proposed access routes through retained trees RPA's and the installation of tree protective fencing will adequately protect the retained trees RPAs if accompanied by detailed methods and supervision by a consultant arboriculturist.

9.4 The development of the site has undergone detailed consultation with the architects, landscape architects, structural engineers and the tree officer with the client to determine the best possible design that suites the needs of the school but also looks to protect the best high amenity value trees.

9.5 The removal of the 48 trees in total will be mitigated by extensive new tree and shrub planting across the site as proposed within the provided landscaping scheme.

Paul Allen MICFor M.Arbor.A Dip Arb(RFS)
Consultant Arboriculturist
23 October 2014

10.0 Appendices

Appendix 1 Key to Survey Sheets

Appendix 2 Tree Survey Sheets

Appendix 3 Tree Constraints Plan

Appendix 4 Tree Protection Plan

Appendix 5 Tree Works Schedule

Appendix 6 Site Inspection & Monitoring Schedule

Appendix 7 BS5837:2012 Tree Constraints & Protection Methods

Appendix 8 Tree Protection Fencing Specification

Appendix 9 Temporary Ground Protection Specification

Appendix 10 Photographs

Appendix 1 – Key to Tree Survey Sheets

Key

BS 5837 Cat	Description
A	Those of high quality and value: in such a condition as to be able to make a substantial contribution (> 40 years)
B	Those trees of moderate quality and value: those in such a condition as to make a significant contribution (> 20 years)
C	Those trees of low quality and value: currently in adequate condition to remain until new planting could be established (> 10 years)
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 regardless of development

Note: Sub categories are denoted in the tree survey data (A1, B1, C2 etc.). You are referred to the BS for further detail if required.

Tree No.	T (tree), G (group), H (hedge), W (woodland) + Ref No.
Species	Common Name
Ht (m)	Measured height in metres
DBH (m)	Diameter at 1.5m above ground level
Branch Spread	In m to cardinal points
Cr Ht Clearance (m)	Overall height of lowest branches from the ground level on side of proposed development
Life Stage	Young, Semi-Mature, Early-Mature, Mature, Over-Mature
General Observations	Observations on the condition of the tree(s)
Tree Work Specification	Proposed tree works in accordance with BS3998
BS Cat	See above
Life Exp	Estimated remaining contribution in years.
RPA Radius(m)	Radius of the trees Root Protection Area measured from the trunk to the edge of the RPA circle in metres
RPA (m2)	Overall Root Protection Area in m2
*	Indicates where tree data may have been estimated as tree was offsite / restricted access / dense vegetation hindering full inspection

Appendix 2 – Tree Survey Sheets

Tree No.	Species	DBH (m)	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
TG1	Cordyline (Palm)X 5	0.16	M/s	6	1	1	1	1	C2	Mature	10_19	4	Average form, shape and condition. Dense upper crowns, low crown deadwood	No Works	8
TG2	Mixed Speceis group of: Hornbeam, Ash, Sycamore, Silver Maple, Lime, Oak, Cherry	0.5	M/s	18	6	6	6	6	B2	Mature	20_39	1	Average form, shape and condition linear boundary tree group. Low branches overhang offsite footpath. Dense crowns, moderate crown deadwood. Some multiple stemmed coppice trees - with basal included unions, mainly Sycamore and Hawthorn. Standard Maple and Sycamore, Hornbeam and Ash.	Crown lift to 3m over public footpath. Remove dead wood >10cm diameter throughout the tree crowns. Selective re-coppice multiple stemmed trees. Indiviudally inspect trees for Hazard assessment survey.	79
TG3	Mixed species group of: Holm Oak, Sycamore and Hawthorn	0.8	M/s	20	6	6	6	6	B2	Mature	20_39	2	Average form, shape and condition linear boundary tree group. Dense crowns, moderate crown deadwood. Low branches over site. Some large Sycamore multiple stemmed coppice trees. Predominantly Holm Oak and Sycamore with understorey of Hawthorn. Not managed or regularly inspected.	Crown lift to 3m over site. Inspect individually as part of Hazard assessment.	201
TG4	Yew, Hawthorn, Cherry, Elder, Sycamore Seedling trees	0.3	M/s	10	4	4	4	4	C2	Early-Mature	10_19	1	Average form, shape and condition linear mainly large shrub / small tree group. Not managed. Contains seedling Sycamore and Elder. Multiple stemmed Hawthorn present - not managed.	Remove seedling trees. Trim Yew to manage. Re-coppice / crown reduce Hawthorn to tidy. Manage / trim shrubs.	28
TG5	Hawthorn, Ash Seedlings, Elder	0.25	M/s	8	3	3	3	3	C2	Early-Mature	10_19	1	Average form, shape and condition, mixed species group. predominantly Hawthorn standards with Elder / Ash self-set, pioneer trees. Boundary trees adjacent to highway.	No Works	20
TG6	Hawthorn Lime Purple Leaf Plum (Atro-purpurea)	0.1	M/s	6	3	3	3	3	C2	Semi-Mature	20_39	2	Average form, shape and condition. Young newly established trees growing as understory to mature Lime and Horse Chestnut.	Young tree maintenance	3
TG7	Lilac, Elder, Cherry x 2, Dead Cherry	0.25	M/s	7	3	3	3	3	C2	Early-Mature	10_19	1	Poor form, shape and condition linear group on boundary of tennis courts. x 2 dead Cherry trees. Self sown Elder.	Fell x 2 dead Cherry trees.	20

Tree No.	Species	DBH (m)	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
TG8	Lombardy Poplar	0.50*	m/s	20*	4	4	4	4	C2	Mature	10-19	2	X 4 offsite 3rd party owned and managed trees overhanging school playground. Central tree severely infected with decay fungus, likely Rigidiporus ulmarius.	3rd party land owners previously spoken to to fell dangerous tree.	79
T1	Elm	0.23	2	6	2	2	2	2	C2	Semi-Mature	10_19	2	Average form, shape and condition for species. Dense crown, low crown deadwood. Low branches.	No Works	17
T2	London Plane	0.1	1	6.5	2	2	2	2	B2	Semi-Mature	>40	2	Good form, shape and condition. Dense crown, low crown deadwood.	No Works	5
T3	London Plane	0.14	1	8	3	3	3	3	B2	Semi-Mature	>40	2	Good form, shape and condition. Dense crown, low crown deadwood.	No Works	9
T4	London Plane	0.1	1	6.5	2	2	2	2	B2	Semi-Mature	>40	2	Good form, shape and condition. Dense crown, low crown deadwood. Minor basal trunk damage - strimmer.	No Works	5
T5	Holm Oak	0.264	1	10	3	3	5	2	C2	Early-Mature	20_39	3	Poor form, shape and condition. Dense crown, low crown deadwood. Asymmetric canopy. Trunk wound at 0m on North side with early decay.	No Works	32
T6	Bird Cherry	0.11	1	7	3.5	3.5	3.5	3	C2	Semi-Mature	10_19	2	Average form, shape and condition. Open crown, low crown deadwood. Low branches. Obstructing CCTV.	Cut back to suitable side growth point to provide 2-3m clearance from adjacent CCTV.	5
T7	Bird Cherry	0.1	1	7	3	3	3	3	C2	Semi-Mature	10_19	2	Average form, shape and condition. Open crown, low crown deadwood. Low branches. Obstructing street light. Trunk damage from drawing pins.	Cut back to suitable side growth point to provide 2-3m clearance from adjacent street light.	5
T8	Bird Cherry	0.07	1	6	2	2	2	2	C2	Semi-Mature	10_19	2	Average form, shape and condition. Open crown, low crown deadwood. Low branches. Obstructing street light. Trunk damage from drawing pins.	Cut back to suitable side growth point to provide 2-3m clearance from adjacent street light.	2
T9	Mountain Ash	0.08	1	6	2	2	2	2	C2	Semi-Mature	10_19	2	Average form, shape and condition. Open crown, low crown deadwood. Low branches.	No Works	3

Tree No.	Species	DBH (m)	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T10	Hybrid Poplar	0.528	1	14	2.5	4	4	3	C2	Mature	10_19	3	Poor form, shape and condition. Overhangs main site entrance path. Subject to past management - Lifted /Reduced. Basal / trunk epicormic growth- recently pruned to 3m. Asymmetric canopy. Mower / strimmer damage to buttress / surface structural root	Remove & Replace with suitable species of tree within final landscape scheme	126
T11	Red Oak	0.38	1	18	6	4	7	3	C2	Mature	10_19	2	Poor form, shape and average condition. Asymmetric canopy. Dense crown, low crown deadwood. Trunk epicormic growth.	Crown reduce and reshape by 20-30% to suitable side growth points retaining a flowing canopy shape.	65
T12	Norway Maple	0.366	1	11	5	5	5.5	5	C2	Early-Mature	10_19	4	Average form, shape and condition. Dense crown, low crown deadwood. Subject to past management - Lifted.	No Works	61
T13	Norway Maple	0.27	1	9	1	3.5	5	5	C2	Early-Mature	10_19	3	Average form, shape and condition. Subject to past management - Lifted / Thinned. Asymmetric canopy.	Crown reduce and reshape by 20-30% to suitable side growth points retaining a flowing canopy shape.	33
T14	Ornamental Apple	0.25	1	8	3	3	3	3.5	C2	Mature	10_19	3	Average form, shape and condition. Subject to past management - Lifted. Basal epicormic growth- recently pruned. Dense crown, low/moderate crown deadwood.	No Works	28
T15	Ornamental Apple	0.16	1	6	1	1	3	3	C2	Early-Mature	10_19	3	Poor form, shape and condition. Subject to past management - Lifted. Asymmetric canopy.	No Works	12
T16	Cuppressus sempervirons	0.07	1	5	0.5	0.5	0.5	0.5	B1	Semi-Mature	20_39	0	Good form, shape and condition. Recently established. Still staked. Dense crown, low crown deadwood.	Remove stakes	2
T17	Magnolia	0.05	1	4	0.5	0.5	0.5	0.5	C1	Semi-Mature	10_19	2	Poor / average form, shape and condition. Young newly established tree. Still staked.	Young tree maintenance	1

Tree No.	Species	DBH (m)	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T18	Dead tree	0.05	1	4	0.5	0.5	0.5	0.5	U	Young	<10	2	Dead tree	Remove & Replace with suitable species of tree within final landscape scheme	1
T19	Silver Birch	0.09	1	8	2	2	2	2	B1	Semi-Mature	20_39	2	Good form, shape and condition. Dense crown, low crown deadwood. Low branches. Young newly established tree - still staked.	No Works	4
T20	Silver Birch	0.3	1	12	3	5	5	3	U	Mature	<10	3	Poor form, shape and condition. Showing signs of stress with sparse crown extremities / short shoots. Crown in decline - high crown deadwood, some hanging.	Fell to ground level.	41
T21	Silver Birch	0.3	1	15	4	4	3.5	3.5	B2	Early-Mature	20_39	4	Average form, shape and condition. Subject to past management - Lifted. Dense crown, low crown deadwood.	No Works	41
T22	Silver Birch	0.14	1	9	1	2	1.5	1	C2	Semi-Mature	10_19	2	Poor form, shape and condition. Suppressed and etiolated tree with asymmetric canopy. Subject to past management - Lifted. Trunk epicormic growth.	Remove & Replace with suitable species of tree within final landscape scheme	9
T23	Silver Birch	0.25	1	13	4.5	3	4	4.5	U	Early-Mature	20_39	3	Windblown	Tree Felled	28
T24	Cherry	0.05	1	2.5	1	1	1	1	U	Young	<10	1	Top snapped out. High deadwood.	Fell to ground level.	1
T25	Silver Birch	0.168	1	13	3	3	3	3.5	B2	Mature	20_39	2.5	Average form, shape and condition Dense crown, low/moderate/major crown deadwood	No Works	13
T26	Elder	0.334	M/s	7	2.5	3.5	3	3	C2	Mature	10_19	1.5	Average form, shape and condition. Dense crown, low crown deadwood. Low branches.	No Works	35
T27	Contorted Hazel	0.101	M/s	6	3	2.5	2	2.5	C2	Early-Mature	10_19	1	Poor form, shape and condition. Low branches. Vigorous re-growth reversion from rootstock of contorted Hazel scion.	Cut back reverting sucker growth from rootstock.	3

Tree No.	Species	DBH (m)	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T28	Sycamore	0.095	1	9	3	3	3	3	B2	Early-Mature	20_39	2	Good form, shape and condition. Open crown, low crown deadwood. Slightly etiolated tree with high H:D ratio.	No Works	4
T29	Purple Leaf Plum	0.381	2	10	1.5	3.5	6	5	C2	Mature	10_19	1.5	Poor form, shape and condition. Co-dominant tree with included unions. Asymmetric canopy. Ivy clad crown and stem. Dense crown, moderate crown deadwood.	Crown reduce and reshape asymmetric crown by 20-30% to suitable side growth points retaining a flowing canopy shape. Remove/ ring Ivy.	46
T30	Laurel	0.875	M/s	9	5	5	7	4	C2	Mature	10_19	2	Dense upper crown, low crown deadwood. Multiple stemmed large shrub previously crown lifted.	No Works	241
T31	Ash	0.35	1	15	5	4	4	5	C2	Early-Mature	10_19	5	Average form, shape and condition. Dense crown, low crown deadwood. Subject to past management - Lifted to 13m. Soil heavily compacted within rooting zone. Co-dominant tree with included unions.	No Works	55
T32	Ash	0.277	1	14	5	5	3	1	C2	Early-Mature	10_19	5	Average form, shape and condition, Dense crown, low crown deadwood. Asymmetric canopy. Subject to past management - Reduced/ Lifted. Soil heavily compacted within rooting zone.	No Works	35
T33	Cherry	0.095	1	5	1.5	3	3	1.5	U	Semi-Mature	<10	1.5	Poor form, shape and condition. Showing signs of stress with sparse crown extremities / short shoots. Crown in decline. Asymmetric canopy. Soil heavily compacted within rooting zone.	Remove & Replace with suitable species of tree within final landscape scheme	4
T34	Lime	0.882	1	20	6	7	6	5	B2	Mature	20_39	3	Average form, shape and condition. Dense crown, low crown deadwood. Subject to past management - Lifted /Reduced. Recently basal epicormic growth pruned.	No Works	352

Tree No.	Species	DBH (m)	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T35	Holm Oak	0.19	1	8	4.5	4	3	3.5	C2	Semi-Mature	10_19	2	Poor form, shape and condition. Dense asymmetric crown, low crown deadwood. Basal / trunk epicormic growth. Rubbing and overhanging adjacent building.	Crown reduce and reshape asymmetric crown by 20-30% to suitable side growth points retaining a flowing canopy shape.	16
T36	Hawthorn	0.255	1	10	3.5	2.5	3.5	3	C2	Mature	10_19	3	Average form, shape and condition. Subject to past management - Lifted. Asymmetric canopy. Dense crown, low crown deadwood.	No Works	29
T37	Sycamore	0.499	1	17	5	7.5	9	6.5	U	Mature	<10	9	Poor form, shape and condition. Showing signs of stress with sparse crown extremities / short shoots. Bacterial exudate om main trunk. High upper crown deadwood. x 5 partially occluded trunk wounds.	Remove & Replace with suitable species of tree within final landscape scheme	113
T38	Sycamore	0.547	1	20	5.5	7	6	6.5	B2	Mature	20_39	6	Average form, shape and condition. Asymmetric canopy. Subject to past management - Lifted & Thinned. Dense upper crown, low crown deadwood. Soil heavily compacted within rooting zone.	No Works	135
T39	Holm Oak	0.19	1	8	4.5	4	3	3.5	U	Semi-Mature	<10	2	Poor form, shape and condition. Dense asymmetric crown, low crown deadwood. Suppressed specimen. Co-dominant tree with included unions.	Remove & Replace with suitable species of tree within final landscape scheme	16
T40	Norway Maple	0.611	1	20	9	5	4	8	B2	Mature	20_39	3.5	Average form, shape and condition. Dense upper crown, low crown deadwood. Subject to recent crown management - Lifted /Thinned and reduced. Soil heavily compacted within rooting zone.	De-compact rootzone	169
T41	Norway Maple	0.516	1	16	7	9	10	5	B2	Mature	20_39	5	Average form, shape and condition. Dense crown, low crown deadwood. Asymmetric canopy. Soil heavily compacted within rooting zone.	Crown reduce and reshape asymmetric crown by 20-30% to suitable side growth points retaining a flowing canopy shape.	120

Tree No.	Species	DBH (m)	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T42	Mountain Ash	0.063	1	6	2	2	2	2	B2	Semi-Mature	20_39	1.5	Average form, shape and condition. Dense crown, low crown deadwood. Young newly established tree - still staked.	Young tree maintenance - remove stake	2
T43	Sorbus sp.	0.063	1	6	2	2	2	2	B2	Semi-Mature	20_39	1.5	Average form, shape and condition. Dense crown, low crown deadwood. Young newly established tree - still staked.	Young tree maintenance - remove stake	2
T44	Yew	0.25	M/s	3	3	3	3	3	C2	Early-Mature	10_19	1	Average form, shape and condition. Dense crown, low crown deadwood. Subject to past management - trimmed large shrub.	Annual trimming maintenance	20
T45	Holm Oak	0.318	1	12	4.5	4	4	4	B2	Early-Mature	20_39	2	Average form, shape and condition. Dense crown, low crown deadwood. Low branches. Bacterial wetwood exudate on root crown.	No Works	46
T46	Medlar	0.309	M/s	7	3	2.5	3	3	C2	Mature	10_19	2	Poor form, shape and condition. Co-dominant tree with included unions. Asymmetric canopy over the footpath. Heavily fruiting.	Remove & Replace with suitable species of tree within final landscape scheme	30
T47	Holm Oak	0.127	1	6	2	1.5	2	2	A2	Early-Mature	>40	1.5	Good form, shape and condition. Dense crown, low crown deadwood.	No Works	7
T48	Holm Oak	0.223	1	9	3	2.5	3.5	3	A2	Early-Mature	>40	2	Good form, shape and condition. Dense crown, low crown deadwood.	No Works	22
T49	Hawthorn	0.293	1	8	5	3	2.5	4	U	Mature	<10	4	Poor form, shape and condition. Subject to past management - Lifted. Showing signs of stress with sparse crown extremities / short shoots. Sparse crown, high deadwood.	Remove & Replace with suitable species of tree within final landscape scheme	39
T50	Hawthorn	0.277	1	8	4	3	3.5	3.5	U	Mature	<10	4	Poor form, shape and condition. Subject to past management - Lifted. Showing signs of stress with sparse crown extremities / short shoots. Sparse crown, high deadwood.	Remove & Replace with suitable species of tree within final landscape scheme	35

Tree No.	Species	DBH (m)	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T51	Judas Tree	0.015	1	4	1	1	1	1	U	Young	<10	1	Poor form, shape and condition. Young newly poorly established tree. Still staked. High crown deadwood.	Remove & Replace with suitable species of tree within final landscape scheme	0
T52	Weeping Willow	0.019	1	4	2	1	1	1	U	Young	<10	1	Poor form, shape and condition. Young newly established tree - still staked. High crown deadwood.	Remove & Replace with suitable species of tree within final landscape scheme	0
T53	Box Elder	0.105	1	3.5	3	2	3	1.5	C2	Early-Mature	10_19	1	Average form, shape and condition. Asymmetric canopy. Open crown, moderate deadwood. Crown infested with Russian Vine.	No Works	5
T54	Box Elder	0.08	1	7	3.5	2	1	2.5	C2	Early-Mature	10_19	2.5	Poor form, shape and condition. Asymmetric canopy. Open crown, moderate deadwood.	No Works	3
T55	Box Elder	0.079	1	8	3	3	2	2	C2	Early-Mature	10_19	2.5	Poor form, shape and condition. Asymmetric canopy. Open crown, moderate deadwood.	No Works	3
T56	Poplar, Lombardy	0.817	1	16	3.5	4	4	3	B2	Mature	20_39	1	Average form, shape and condition. Dense crown, moderate crown deadwood. Subject to past management - Lifted /Reduced. Basal / trunk epicormic growth. Heavy Russian Vine infestation.	Remove/ ring Russian Vine	302
T57	Poplar, Lombardy	0.741	1	16	4.5	3.5	4	3.5	B2	Mature	20_39	1	Average form, shape and condition. Dense crown, moderate crown deadwood. Subject to past management - Lifted /Reduced. Basal / trunk epicormic growth. Heavy Russian Vine infestation.	Remove/ ring Russian Vine	248
T58	Poplar, Lombardy	0.827	1	16	3	4.5	4	3.5	B2	Mature	20_39	2	Average form, shape and condition. Dense crown, moderate crown deadwood. Subject to past management - Lifted /Reduced. Trunk epicormic growth. Ivy on root crown area.	Remove/ ring ivy	309

Tree No.	Species	DBH (m)	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T59	Poplar, Lombardy	0.678	1	17	3.5	2.5	4	2	B2	Mature	20_39	2	Average form, shape and condition. Dense asymmetric crown, moderate crown deadwood. Subject to past management - Lifted /Reduced. Trunk and basal epicormic growth. Ivy clad trunk.	Remove/ ring ivy Remove epicormic growth to a height of 3m	208
T60	Poplar, Lombardy	0.748	1	16	3	1	3	3	B2	Mature	20_39	2	Average form, shape and condition. Dense asymmetric crown, moderate crown deadwood. Subject to past management - Lifted /Reduced. Trunk and basal epicormic growth. Heavily Ivy clad trunk. Seedling Ash around trunk root crown.	Remove/ ring ivy. Remove epicormic growth to a height of 3m. Remove seedling Ash trees around bace and re-inspect.	253
T61	Poplar, Lombardy	0.907	1	17.5	3.5	3	4	3.5	B2	Mature	20_39	2	Average form, shape and condition. Dense asymmetric crown, moderate crown deadwood. Subject to past management - Lifted /Reduced. Trunk and basal epicormic growth. Ivy clad trunk. Elder seedlings around root crown area.	Remove/ ring ivy. Remove epicormic growth to a height of 3m. Remove Elder around root crown and re-inspect.	372
T62	Poplar, Lombardy	0.942	1	20	3	3	4	2.5	U	Mature	<10	2	Average form, shape and condition. Dense crown, moderate crown deadwood. Subject to past management - Lifted /Reduced. Large basal trunk wound with advanced decay and multiple fresh fungal fruiting brackets, suspected *Rigidoporus ulmarius*, x 6 observed around trunk crown break. Tree recently 'split-out' main leading stem in high storm winds. Oct. 2013.	Fell to ground level as soon as practicable. Remove stump completely.	401
T63	Poplar, Lombardy	0.843	1	16	3.5	3	3	3	B2	Mature	20_39	2	Average form, shape and condition. Dense asymmetric crown, moderate crown deadwood. Subject to past management - Lifted /Reduced. Trunk and basal epicormic growth. Elder seedlings hindering inspection.	Remove Elder seedlings around trunk base and re-inspect. Remove epicormic growth to a height of 3m	321
T64	Norway Maple	0.27	1	14	5	5	4	5	B2	Mature	20_39	2	Good form, shape and condition. Dense crown, low crown deadwood.	No Works	33
T65	Cut-Leaf Silver Birch	0.137	1	12	2	3	3	3	B2	Mature	20_39	4	Average form, shape and condition. Open crown, low crown deadwood.	No Works	8

Tree No.	Species	DBH (m)	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T66	Cut-Leaf Silver Birch	0.098	1	11	2	2.5	3	3	B2	Mature	20_39	4	Average form, shape and condition. Open crown, low crown deadwood.	No Works	4
T67	Box Elder	0.223	1	10	4.5	5	4	5	C2	Mature	10_19	4	Poor form, shape and condition. Open crown, moderate crown deadwood. Reverting from its original variegated form.	No Works	22
T68	Ash	0.175	1	8	3	3	3	3	C2	Early-Mature	10_19	1	Average form, shape and condition. Self-set, pioneer tree. Multiple leading stems from low crown break at 1m - included.	Remove & Replace with suitable species of tree within final landscape scheme	14
T69	Lilac	0.3	M/s	6	3	3	3	3	C2	Mature	10_19	1	Average form, shape and condition. Multiple stemmed large shrub - with basal included unions. Low branches	Remove & Replace with suitable species of tree within final landscape scheme	28
T70	Cherry	0.36	2	6	4	2	3	3.5	B2	Mature	20_39	2	Average form, shape and condition. Slightly asymmetric canopy. Dense crown, low crown deadwood. Low branches overhanging footpath.	Crown lift to 3m over footpath	41
T71	Poplar, Lombardy	0.456	1	18	2	3	3	1	B2	Mature	20_39	2	Average form, shape and condition. Dense asymmetric crown, moderate crown deadwood. Subject to past management - Lifted /Reduced. Trunk and basal epicormic growth. Elder seedlings hindering inspection.	Remove Elder seedlings around trunk base and re-inspect. Remove epicormic growth to a height of 3m	94
T72	Poplar, Lombardy	0.681	1	18	2.5	2.3	3	4	B2	Mature	20_39	2	Average form, shape and condition. Dense asymmetric crown, moderate crown deadwood. Subject to past management - Lifted /Reduced. Trunk and basal epicormic growth. Elder seedlings hindering inspection.	Remove Elder seedlings around trunk base and re-inspect. Remove epicormic growth to a height of 3m	210
T73	Sycamore	0.541	1	17	6	8.5	8	6.5	B2	Mature	20_39	5	Average form, shape and condition. Subject to past management - Lifted /Thinned. Basal epicormic growth. Dense upper crown, low crown deadwood.	Remove epicormic growth to a height of 3m - re-inspect.	132

Tree No.	Species	DBH (m)	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T74	Pear	0.509	M/s	12	3.5	1	3.6	4	C2	Mature	10_19	2	Average form, shape and condition. Multiple stemmed tree. Dense crown, moderate crown deadwood. Basal epicormic growth.	Remove epicormic growth to a height of 3m. re-inspect. Remove dead wood >10cm diameter throughout the crown	81
T75	Pear	0.439	M/s	12	3	3.5	4	1	C2	Mature	10_19	2	Average form, shape and condition. Multiple stemmed tree. Dense crown, moderate crown deadwood. Basal epicormic growth. Multiple, partially occluded trunk wounds on most northern stem.	Remove epicormic growth to a height of 3m. re-inspect. Remove dead wood >10cm diameter throughout the crown	61
T76	Cedar of Lebanon	0.528	1	15	6	6	7.5	6.5	B1	Mature	>40	2	Good form, shape and condition. Dense crown, moderate crown deadwood. Slight gap in crown. Low branches.	Crown lift to 3m over public footpath / car park. Remove dead wood >10cm diameter throughout the crown	126
T77	Sycamore	0.617	1	17	7	7.3	9	8	B1	Mature	>40	4.5	Average to Good form, shape and condition. Subject to past management - Lifted /Thinned. Dense upper crown but with smaller than usual leaves, low/moderate crown deadwood.	No Works	172
T78	Silver Birch	0.286	1	11	1	4	8	3.5	C2	Mature	10_19	2.5	Poor form, shape and condition. Dense crown, low/moderate crown deadwood. Stem 'dog-legged' and leaning over adjacent building. Asymmetric canopy over building.	Remove & Replace with suitable species of tree within final landscape scheme	37
T79	Silver Birch	0.309	1	15	0.5	4	3.5	4	B2	Mature	20_39	3	Average form, shape and condition. Dense crown, low crown deadwood. Subject to past management - Lifted. Slight 'dog-legged' kink in main stem.	No Works	43
T80	Silver Birch	0.213	1	13	3.6	5	3	1.5	B2	Mature	20_39	2.5	Average form, shape and condition. Dense upper crown, low crown deadwood. Asymmetric canopy.	No Works	21

Tree No.	Species	DBH (m)	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T81	Cherry	0.446	M/s	11	5	4	5.5	6	U	Mature	10_19	3	Poor form, shape and condition. Subject to recent management - Lifted / Thinned. Sparse upper crown, low crown deadwood. Multiple stemmed tree with three leading stems - with basal included unions.	Fell to ground level Remove stump completely	62
T82	Lime	0.573	1	14	4.5	5	4.5	4.5	C2	Mature	10_19	2	Poor form, shape and condition. Dense upper crown, major crown deadwood. Basal / trunk epicormic growth - included. Large trunk wound on north side from 1-2m.	Remove dead wood >10cm diameter throughout the crown Remove epicormic growth to a height of 3m	149
T83	Ash	0.43	1	17	7	5	6	7.5	B2	Mature	20_39	4.5	Average form, shape and condition. Subject to past management - Lifted 4m. Dense crown, moderate crown deadwood.	Remove dead wood >10cm diameter throughout the crown	84
T84	Lime	0.341	1	12	4.5	4	4.5	3	C2	Early-Mature	20_39	3	Average slightly suppressed form, shape and condition. Dense crown, low crown deadwood. Previously crown lifted. Co-dominant tree with included unions. Trunk epicormic growth to 2.5m.	Remove epicormic growth to a height of 4m	53
T85	Lime	0.223	1	10	6	3.5	5	2.5	C2	Early-Mature	10_19	3	Average form, shape and condition. Suppressed asymmetric canopy. Dense crown, low crown deadwood. Subject to past management - Lifted 4m.	No Works	22
T86	Red Oak	0.436	1	17	7	5	8.5	5.5	B2	Mature	20_39	3.5	Average form, shape and condition. Dense crown, moderate crown deadwood. Subject to past management - Lifted 4m. Asymmetric canopy.	Remove dead wood >10cm diameter throughout the crown	86
T87	Lime	0.509	1	16	5.5	6.5	6	4.5	B2	Mature	20_39	2.5	Average form, shape and condition. Dense crown, low crown deadwood. Subject to past management - Lifted / Crown reduced. Trunk epicormic growth to crown break at 5m.	Remove epicormic growth to a height of 5m	117

Tree No.	Species	DBH (m)	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T88	Lime	0.503	1	15	3	2.5	6.5	1.5	U	Mature	<10	2	Poor form, shape and condition. Showing signs of stress with sparse crown extremities / short shoots. Upper crown in decline. Asymmetric canopy. Basal wound on south side with advanced decay - Kretzschmeria deusta.	Remove & Replace with suitable species of tree within final landscape scheme	114
T89	Lime	0.462	1	14	6.5	4.5	6	3.5	C2	Mature	10_19	2.5	Poor form, shape and condition. Showing signs of stress with sparse crown extremities / short shoots. Basal / trunk epicormic growth. High crown deadwood. x 3 large trunk wounds on east trunk between 1-3m.	Remove dead wood >10cm diameter throughout the crown Remove epicormic growth to a height of 4m. Re-inspect for decay at root crown.	97
T90	Lime	0.462	1	14.5	3.5	4.5	5.5	3	C2	Mature	10_19	2.5	Poor form, shape and condition. Showing signs of stress with sparse crown extremities / short shoots. Upper crown in decline. Basal / trunk epicormic growth - Hindering basal trunk inspection. Fence screed to trunk.	Remove dead wood >10cm diameter throughout the crown Remove epicormic growth to a height of 4m - re-inspect for basal decay.	97
T91	Lime	0.516	1	14	5.5	4.3	3.5	4	C2	Mature	10_19	2.5	Average form, shape and condition. Dense crown, low/moderate crown deadwood. Basal / trunk epicormic growth - unable to fully inspect. Fenced attached to trunk.	Remove epicormic growth to a height of 4m - re-inspect.	120
T92	Blue Atlas Cedar	0.519	1	18	5	6	6	3.5	C2	Mature	20_39	6	Poor / Average form, shape and condition. Open / thin upper crown, moderate crown deadwood. Asymmetric form. High crown break. Trunk exudate over entire length of trunk. Root crown unable to inspect - dense vegetation hindering inspection.	Remove dead wood >10cm diameter throughout the crown. Remove root crown vegetation and re-inspect.	122
T93	Blue Atlas Cedar	0.723	1	19	9	9	8	8	U	Mature	20_39	4	Poor form, shape and condition. Sparse crown, high crown deadwood. x 4 leading stems from low crown break, included but acute. Recently died, likely Honey Fungus	Fell to ground level. Remove stump completely	236

Tree No.	Species	DBH (m)	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T94	Blue Atlas Cedar	0.5	1	15	3	7	6	4	C2	Mature	20_39	4	Average form, shape and condition. Dense crown, low / moderate crown deadwood. Asymmetric crown. Dense vegetation hindering root crown inspection.	Remove dead wood >10cm diameter throughout the crown. Remove root crown vegetation and re-inspect.	113
T95	Blue Atlas Cedar	0.4	1	13	3.5	5	5	6	B2	Mature	20_39	4	Average / asymmetric form, shape and condition. Dense crown, moderate crown deadwood. Dense vegetation hindering root crown inspection.	Remove dead wood >10cm diameter throughout the crown. Remove root crown vegetation and re-inspect.	72
T96	Lime	0.45	1	11	3.5	3	3	3	C2	Mature	10_19	1	Poor / Average form, shape and condition. Thinning upper crown, moderate/major crown deadwood - large dead limb to south. Dense basal / trunk epicormic growth - hindering inspection.	Remove dead wood >10cm diameter throughout the crown Remove epicormic growth to a height of 3m - re-inspect	92
T97	Lime	0.414	1	10	2	2	2	2	C2	Mature	10_19	3	Poor form, shape and condition. Subject to past management - 'Topped' at 8m. Dense crown / trunk re-growth, low crown deadwood. Dense basal / trunk epicormic growth.	Remove epicormic growth to a height of 3m - re-inspect root crown.	78
T98	Hornbeam	0.404	1	13	3	4	6	4	C2	Mature	10_19	3	Poor form, shape and condition. Subject to past management - Lifted. Showing signs of stress with sparse crown extremities / short shoots - moderate crown deadwood. Basal trunk wound with moderate decay.	Remove dead wood >10cm diameter throughout the crown	74
T99	Lime	0.286	1	6	2	2	1	1	U	Early-Mature	<10	4	Poor form, shape and condition. Showing signs of stress with sparse crown extremities / short shoots. Storm damaged crown. Central leader lost in past. Crown in decline - one live branch left on mostly dead trunk.	Remove & Replace with suitable species of tree within final landscape scheme	37
T100	Lime	0.43	1	8	2	2	2	2	C2	Mature	10_19	4	Poor form, shape and condition. Tree 'topped' @ 6m. Dense epicormic re-growth to trunk and root crown. Trunk wound and cavity at 2m.	Remove epicormic growth to a height of 2m	84

Tree No.	Species	DBH (m)	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T101	Hawthorn	0.08	1	3	1	1	1	1	C2	Young	10_19	1	Average form, shape and condition. Young newly established tree - still staked. Basal / trunk epicormic growth	Young tree maintenance - remove stake.	3
T102	Lime	0.509	1	12	3.5	3	3	3	C2	Mature	10_19	2	Poor form, shape and condition. Tree previously 'topped' @ 10m. Vigorous basal / trunk epicormic growth.	Remove epicormic growth to a height of 3m - re-inspect root crown.	117
T103	Lime	0.452	1	10	3	3	3	3.5	C2	Mature	10_19	2	Poor form, shape and condition. Tree previously 'topped' @ 10m. Vigorous basal / trunk epicormic growth - hindering root crown inspection.	Remove epicormic growth to a height of 3m - re-inspect	92
T104	Lime	0.477	1	12	4	3.5	3	3.5	C2	Mature	10_19	2	Poor form, shape and condition. Tree previously 'topped' @ 10m. Vigorous basal / trunk epicormic growth - hindering root crown inspection.	Remove epicormic growth to a height of 3m - re-inspect	103
T105	Horse Chestnut	0.84	1	16	6.5	8	7.5	6	U	Mature	<10	3	Poor form, shape and condition. Open crown, defoliated. Large dead limbs in crown. Trunk epicormic growth. x 2 leading stems including with fresh cracking evident. Tree already condemned by tree officer. Tree felled.	Tree felled in Oct. 2013. Stump to be removed completely	319
T106	Lime	0.493	1	15	3.5	4	3.5	3	C2	Mature	10_19	2	Poor form, shape and condition. Tree previously 'topped' @ 8m. Vigorous basal / trunk epicormic growth - hindering root crown inspection. x 1 large dead limb over highway.	Remove epicormic growth to a height of 4m - re-inspect. Remove dead limb over road as soon as practicable.	110
T107	Lime	0.417	1	14	3.5	4	2.5	3	C2	Mature	10_19	2.5	Poor form, shape and condition. Tree previously 'topped' @ 10m. Vigorous basal / trunk epicormic growth - hindering root crown inspection.	Remove epicormic growth to a height of 3m - re-inspect	79
T108	Beech	0.487	1	18	7.5	7	3.5	7	B2	Mature	20_39	5	Average form, shape and condition. Dense crown, moderate crown deadwood. Asymmetric canopy.	Remove dead wood >10cm diameter throughout the crown	107

Tree No.	Species	DBH (m)	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T109	London Plane	0.764	1	25	6	12	7	5.5	B2	Mature	>40	5	Average form, shape and condition. Asymmetric canopy. Dense crown, low/moderate crown deadwood. Multiple trunk pruning wounds / cavities on main trunk.	Crown reduce and reshape asymmetric crown by 30% to suitable side growth points retaining a flowing canopy shape. Remove dead wood >10cm diameter throughout the crown	264
T110	London Plane	0.78	1	26	10	8	11	15	B2	Mature	>40	4	Average form, shape and condition. Heavily asymmetric canopy to west. Dense crown, low/moderate crown deadwood. Ivy clad trunk.	Remove dead wood >10cm diameter throughout the crown. Sever / cut ivy to 2m and strip.	275
T111	London Plane	0.455	1	18	2.5	8	5	3	C2	Mature	10_19	10	Poor suppressed form, etiolated shape and condition. Asymmetric canopy. Dense upper crown, moderate crown deadwood. High H:D trunk ratio.	Remove dead wood >10cm diameter throughout the crown	94
T112	London Plane	0.477	1	15	5.5	7	9.5	3	C2	Mature	10_19	4	Poor asymmetric, etiolated form over road. Average condition. Open crown, low/moderate crown deadwood. Multiple trunk pruning wounds / cavities on main trunk.	Crown reduce and reshape asymmetric crown by 30% to suitable side growth points retaining a flowing canopy shape over road. Remove dead wood >10cm diameter throughout the crown	103
T113	London Plane	0.614	1	17	4	9	7	1	C2	Mature	10_19	5	Poor, asymmetric form over pedestrian site entrance. Open crown, low/moderate crown deadwood.	Crown reduce and reshape asymmetric crown by 30% to suitable side growth points retaining a flowing canopy shape over site access path. Remove dead wood >10cm diameter throughout the crown	171
T114	Horse Chestnut	1.87	1	21	11	9	7.5	7.5	B2	Mature	20_39	4	Good form, shape and condition for age and species. Dense crown, moderate crown deadwood. Horse Chestnut Bleeding canker exudate on main trunk. Old pruning wound / cavities on main trunk.	No Works	707

Tree No.	Species	DBH (m)	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T115	Horse Chestnut	1.73	1	20	9	12	11	8	U	Mature	20_39	3	Good form, shape but now poor condition. Sparse crown, small leaves and high crown deadwood. Horse Chestnut Bleeding Canker exudate on main stem. Old pruning wounds and cavities. Long lateral extended limbs with high end weight x 3. Likely Honey Fungus	Fell to ground level. Remove stump completely	707
T116	Cherry	0.446	1	14	4.5	6	5	4	U	Mature	10_19	5	Average form, shape and condition. Dense upper crown, low crown deadwood. Subject to past management - Lifted. Basal trunk wound with surface root damage - mowing. Tree windblown with lifted root plate during storm Oct. 2013. Tree felled.	Windblown tree felled. Stump and root plate to be removed completely.	90
T117	Ash	0.191	1	10	5	4	5	5	B2	Early-Mature	20_39	2	Good form, shape and condition. Dense crown, low crown deadwood	No Works	17
T118	Mountain Ash	0.245	1	7	3	3	4.5	4.5	C2	Mature	10_19	2.5	Average form, shape and condition. Dense crown, low crown deadwood	No Works	27
T119	Ornamental Apple	0.477	2	8	2.5	4	7	6	C2	Mature	10_19	3	Poor, asymmetric form, shape and condition. Dense crown, moderate/major crown deadwood. Ivy clad crown and stem.	Remove/ ring Ivy. Crown reduce and reshape by 20-30% to suitable side growth points retaining a flowing canopy shape to reshape asymmetric crown.	71
T120	Ginkgo	0.719	M/s	17	3	3.5	3.5	3.5	B2	Mature	20_39	6	Good form, shape and condition for species. Dense crown, low crown deadwood. Co-dominant tree with included unions - acute.	No Works	162
T121	Sycamore	0.8	2	14	7	7	7.5	7	B2	Mature	20_39	4	Average form, shape and condition. Co-dominant tree with included unions. Dense crown, low crown deadwood.	Insert x 2 Flexible restraint (Cobra Brace) between co-dominant stems.	201

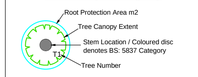
Tree No.	Species	DBH (m)	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T130	Holm Oak	0.732	1	14	3.5	6	7.5	6.5	B2	Mature	20_39	3	Average form, shape and condition. Asymmetric canopy. Subject to past management - Reduced/Cut back from adjacent building. Dense crown, moderate crown deadwood. Ivy clad crown and stem.	Crown reduce and reshape by 20-30% to suitable side growth points retaining a flowing canopy shape to re-balance asymmetric crown.	242
SG1	Mixed shrub species	0.1	M/s	6	3	3	3	3	C2	Early-Mature	10_19	1	Average form, shape and condition un-managed shrub group.	No Works	3

Appendix 3 – Tree Constraints Plan

Tree No	Species	DBH(m)	No of Stems	Ht (m)	BS Cat
T1	Elm	0.23	2	6	C2
T2	London Plane	0.1	1	6.5	B2
T3	London Plane	0.14	1	8	B2
T4	London Plane	0.1	1	6.5	B2
T5	Holm Oak	0.264	1	10	C2
T6	Bird Cherry	0.11	1	7	C2
T7	Bird Cherry	0.1	1	7	C2
T8	Bird Cherry	0.07	1	6	C2
T9	Mountain Ash	0.08	1	6	C2
T10	Hybrid Poplar	0.528	1	14	C2
T11	Red Oak	0.38	1	18	C2
T12	Norway Maple	0.366	1	11	C2
T13	Norway Maple	0.27	1	9	C2
T14	Ornamental Apple	0.25	1	8	C2
T15	Ornamental Apple	0.16	1	6	C2
T16	Cuppressus semperviron	0.07	1	5	B1
T17	Magnolia	0.05	1	4	C1
T18	Dead tree	0.05	1	4	U
T19	Silver Birch	0.09	1	8	B1
T20	Silver Birch	0.3	1	12	U
T21	Silver Birch	0.3	1	15	B2
T22	Silver Birch	0.14	1	9	C2
T23	Silver Birch	0.25	1	13	B2
T24	Cherry	0.05	1	2.5	U
T25	Silver Birch	0.168	1	13	B2
T26	Elder	0.334	M/s	7	C2
T27	Contorted Hazel	0.101	M/s	6	C2
T28	Sycamore	0.095	1	9	B2
T29	Purple Leaf Plum	0.381	2	10	C2
T30	Laurel	0.875	M/s	9	C2
T31	Ash	0.35	1	15	C2
T32	Ash	0.277	1	14	C2
T33	Cherry	0.095	1	5	U
T34	Lime	0.882	1	20	B2
T35	Holm Oak	0.19	1	8	C2
T36	Hawthorn	0.255	1	10	C2
T37	Sycamore	0.499	1	17	U
T38	Sycamore	0.547	1	20	B2
T39	Holm Oak	0.19	1	8	U
T40	Norway Maple	0.611	1	20	B2
T41	Norway Maple	0.516	1	16	B2
T42	Mountain Ash	0.063	1	6	B2
T43	Sorbus sp.	0.063	1	6	B2
T44	Yew	0.25	M/s	3	C2
T45	Holm Oak	0.318	1	12	B2
T46	Medlar	0.309	M/s	7	C2
T47	Holm Oak	0.127	1	6	A2
T48	Holm Oak	0.223	1	9	A2
T49	Hawthorn	0.293	1	8	U
T50	Hawthorn	0.277	1	8	U
T51	Judas Tree	0.015	1	4	U
T52	Weeping Willow	0.019	1	4	U
T53	Box Elder	0.105	1	3.5	C2
T54	Box Elder	0.08	1	7	C2
T55	Box Elder	0.079	1	8	C2
T56	Poplar, Lombardy	0.817	1	16	B2
T57	Poplar, Lombardy	0.741	1	16	B2
T58	Poplar, Lombardy	0.827	1	16	B2
T59	Poplar, Lombardy	0.678	1	17	B2
T60	Poplar, Lombardy	0.748	1	16	B2
T61	Poplar, Lombardy	0.907	1	17.5	B2
T62	Poplar, Lombardy	0.942	1	20	U
T63	Poplar, Lombardy	0.843	1	16	B2
T64	Norway Maple	0.27	1	14	B2
T65	Cut-Leaf Silver Birch	0.137	1	12	B2
T66	Cut-Leaf Silver Birch	0.098	1	11	B2
T67	Box Elder	0.223	1	10	C2
T68	Ash	0.175	1	8	C2
T69	Lilac	0.3	M/s	6	C2
T70	Cherry	0.36	2	6	B2
T71	Poplar, Lombardy	0.456	1	18	B2
T72	Poplar, Lombardy	0.681	1	18	B2
T73	Sycamore	0.541	1	17	B2
T74	Pear	0.509	M/s	12	C2
T75	Pear	0.439	M/s	12	C2
T76	Cedar of Lebanon	0.528	1	15	B1
T77	Sycamore	0.617	1	17	B1
T78	Silver Birch	0.286	1	11	C2
T79	Silver Birch	0.309	1	15	B2
T80	Silver Birch	0.213	1	13	B2
T81	Cherry	0.446	M/s	11	C2
T82	Lime	0.573	1	14	C2
T83	Ash	0.43	1	17	B2
T84	Lime	0.341	1	12	C2
T85	Lime	0.223	1	10	C2
T86	Red Oak	0.436	1	17	B2
T87	Lime	0.509	1	16	B2
T88	Lime	0.503	1	15	U
T89	Lime	0.462	1	14	C2
T90	Lime	0.462	1	14.5	C2
T91	Lime	0.516	1	14	C2
T92	Blue Atlas Cedar	0.519	1	18	C2
T93	Blue Atlas Cedar	0.723	1	19	B2
T94	Blue Atlas Cedar	0.5	1	15	C2
T95	Blue Atlas Cedar	0.4	1	13	B2
T96	Lime	0.45	1	11	C2
T97	Lime	0.414	1	10	C2
T98	Hornbeam	0.404	1	13	C2
T99	Lime	0.286	1	6	U
T100	Lime	0.43	1	8	C2
T101	Hawthorn	0.08	1	3	C2
T102	Lime	0.509	1	12	C2
T103	Lime	0.452	1	10	C2
T104	Lime	0.477	1	12	C2
T105	Horse Chestnut	0.84	1	16	U
T106	Lime	0.493	1	15	C2
T107	Lime	0.417	1	14	C2
T108	Beech	0.487	1	18	B2
T109	London Plane	0.764	1	25	B2
T110	London Plane	0.78	1	26	B2
T111	London Plane	0.455	1	18	C2
T112	London Plane	0.477	1	15	C2
T113	London Plane	0.614	1	17	C2
T114	Horse Chestnut	1.87	1	21	B2
T115	Horse Chestnut	1.73	1	20	B2
T116	Cherry	0.446	1	14	C2
T117	Ash	0.191	1	10	B2
T118	Mountain Ash	0.245	1	7	C2
T119	Ornamental Apple	0.477	2	8	C2
T120	Ginkgo	0.719	M/s	17	B2
T121	Sycamore	0.8	2	14	B2
T122	Silver Birch	0.509	1	13	B2
T123	Yew	0.652	1	10.5	B2
T124	Cherry	0.188	1	7	C2
T125	Whitebeam	0.433	1	8.5	C2
T126	Turkey Oak	0.943	1	25	A2
T127	Norway Maple	0.509	1	12	B2
T128	Turkey Oak	0.997	1	21	A2
T129	Crack Willow	1.527	M/s	14	C2
T130	Holm Oak	0.732	1	14	B2

Tree No	Species	DBH(m)	No of Stems	Ht (m)	BS Cat
TG1	Cordyline (Palm)X 5	0.16	M/s	6	C2
TG2	Mixed Speceis group of: Hornbeam, Ash, Sycamore, Silver Maple, Lime, Oak, Cherry	0.5	M/s	18	B2
TG3	Mixed species group of: Holm Oak, Sycamore and Hawthorn	0.8	M/s	20	B2
TG4	Yew, Hawthorn, Cherry, Elder, Sycamore Seedling trees	0.3	M/s	10	C2
TG5	Hawthorn, Ash Seedlings, Elder	0.25	M/s	8	C2
TG6	Hawthorn, Lime, Purple Leaf Plum (Atropurpurea)	0.1	M/s	6	C2
TG7	Lilca, Elder, Cherry x 2, Dead Cherry	0.25	M/s	7	C2
TG8	Poplar, Lombardy x4	0.9	M/s	23	C2
SG1	Mixed shrub species	0.1	M/s	6	C2

Tree Survey Drawing Key



See Marishal Thompson Tree Survey for Individual Tree Details

KEY

Please refer to Marishal Thompson arboricultural report for details

- Category A - high quality and value
- Category B - moderate quality and value
- Category C - low quality and value
- Category U - removal

RPA - root protection area as defined by Table 2 BS 5837:2012

Category U - removal

Shading Arc

scale bar 1:500 — 5m 0 10m 50m

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REV	AMENDMENTS	DRAWN	DATE	AUTHD
A	T82 to T131 & T257-8 SG1 added	SPB	30-10-13	P Allen

PROJECT
Parliament Hill School
Highgate Road
London NW5 1RL

CLIENT
Urban Design Limited

TITLE
Tree Constraint Plan (TCP)

Job	Scale	ORG NO	Revision
D1909131326	1:500 @ A1	9596	A
Date: 10/08/2013	Type: MT.TCP.9596.v2		

MT Group

Appendix 4 – Tree Protection Plan

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DO NOT SCALE FROM THIS DRAWING

Tree Survey Drawing Key

Root Protection Area m2
Tree Canopy Extent
Stem Location / Coloured disc denotes BS: 5837 Category
T1
Tree Number

See Marishal Thompson Tree Survey for Individual Tree Details

KEY

- Tree to be retained
- Tree Crown Recently Reduced
- Tree to be re-pollarded
- Tree Felled
- Tree protective fencing
- No Dig Surface
- Temporary Ground Protection

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REV	AMENDMENTS	DRAWN	DATE	AUTHD
I	Additional Fencing Added, T82-92 , I15 now Cat U, T48,56 Cat C2	SPB	24/10/14	P Allen
H	New Baseplan Added	SPB	09/10/14	P Allen
G	New Baseplan Added	SPB	02/05/14	P Allen
F	New Baseplan Added	SPB	16/08/14	P Allen
E	New Landscape Plan Issued 27/08/14	SPB	27/08/14	P Allen
D	New Baseplan Added	SPB	09/06/14	P Allen
C	New Baseplan Added	SPB	15/01/14	P Allen
B	New Baseplan Added	SPB	21/12/13	P Allen
A	New Baseplan Added	SPB	24/11/13	P Allen

PROJECT
Parliament Hill School
Highgate Road
London NW5 1RL

CLIENT
Urban Design Limited

TITLE
Planning
Tree Protection Plan (TPP)

Job	Scale	DRG NO	Revision
D1909131326	1:500 @ A1	9596	I
Date	Type		
30/10/2013	MT TPP 9596 v10		

MT Group

Appendix 5 – Tree Works Schedule

NOTE: All tree works to be undertaken in accordance with BS 3998:2010 'Treework - Recommendations'. All pruning cuts to be made at suitable growing points, in line with the principles of natural target pruning.

Tree Works Schedule

Tree No.	Species	Proposed Tree Works	Reason	BS Cat
TG2	Mixed Species group of: Hornbeam, Ash, Sycamore, Silver Maple, Lime, Oak, Cherry	Crown lift to 3m over public footpath. Remove dead wood >10cm diameter throughout the tree crowns. Selective re-coppice multiple stemmed trees. Individually inspect trees for Hazard assessment survey.	Average form, shape and condition linear boundary tree group. Low branches overhang offsite footpath. Dense crowns, moderate crown deadwood. Some multiple stemmed coppice trees - with basal included unions, mainly Sycamore and Hawthorn. Standard Maple and Sycamore, Hornbeam and Ash.	B2
TG3	Mixed species group of: Holm Oak, Sycamore and Hawthorn	Crown lift to 3m over site. Inspect individually as part of Hazard assessment.	Average form, shape and condition linear boundary tree group. Dense crowns, moderate crown deadwood. Low branches over site. Some large Sycamore multiple stemmed coppice trees. Predominantly Holm Oak and Sycamore with understory of Hawthorn. Not managed or regularly inspected.	B2
TG6	Hawthorn Lime Purple Leaf Plum (Atro-purpurea)	Young tree maintenance	Average form, shape and condition. Young newly established trees growing as understory to mature Lime and Horse Chestnut.	C2
T11	Red Oak	Crown reduce and reshape by 20-30% to suitable side growth points retaining a flowing canopy shape.	Poor form, shape and average condition. Asymmetric canopy. Dense crown, low crown deadwood. Trunk epicormic growth.	C2
T13	Norway Maple	Crown reduce and reshape by 20-30% to suitable side growth points retaining a flowing canopy shape.	Average form, shape and condition. Subject to past management - Lifted / Thinned. Asymmetric canopy.	C2
T16	Cuppressus sempervirons	Remove stakes	Good form, shape and condition. Recently established. Still staked. Dense crown, low crown deadwood.	B1
T17	Magnolia	Young tree maintenance	Poor / average form, shape and condition. Young newly established tree. Still staked.	C1
T27	Contorted Hazel	Cut back reverting sucker growth from rootstock.	Poor form, shape and condition. Low branches. Vigorous re-growth reversion from rootstock of contorted Hazel scion.	C2
T29	Purple Leaf Plum	Crown reduce and reshape asymmetric crown by 20-30% to suitable side growth points retaining a flowing canopy shape. Remove/ ring Ivy.	Poor form, shape and condition. Co-dominant tree with included unions. Asymmetric canopy. Ivy clad crown and stem. Dense crown, moderate crown deadwood.	C2
T40	Norway Maple	De-compact rootzone	Average form, shape and condition. Dense upper crown, low crown deadwood. Subject to past management - Lifted /Thinned. Soil heavily compacted within rooting zone. Tree recently crown reduced, Oct. 2013.	B2
T41	Norway Maple	Crown reduce and reshape asymmetric crown by 20-30% to suitable side growth points retaining a flowing canopy shape. De-compact rootzone	Average form, shape and condition. Dense crown, low crown deadwood. Asymmetric canopy. Soil heavily compacted within rooting zone.	B2
T56	Poplar, Lombardy	Remove/ ring Russian Vine	Average form, shape and condition. Dense crown, moderate crown deadwood. Subject to past management - Lifted /Reduced. Basal / trunk epicormic growth. Heavy Russian Vine infestation.	B2

Tree No.	Species	Proposed Tree Works	Reason	BS Cat
T57	Poplar, Lombardy	Remove/ ring Russian Vine	Average form, shape and condition. Dense crown, moderate crown deadwood. Subject to past management - Lifted /Reduced. Basal / trunk epicormic growth. Heavy Russian Vine infestation.	B2
T58	Poplar, Lombardy	Remove/ ring ivy	Average form, shape and condition. Dense crown, moderate crown deadwood. Subject to past management - Lifted /Reduced. Trunk epicormic growth. Ivy on root crown area.	B2
T59	Poplar, Lombardy	Remove/ ring ivy Remove epicormic growth to a height of 3m	Average form, shape and condition. Dense asymmetric crown, moderate crown deadwood. Subject to past management - Lifted /Reduced. Trunk and basal epicormic growth. Ivy clad trunk.	B2
T60	Poplar, Lombardy	Remove/ ring ivy. Remove epicormic growth to a height of 3m. Remove seedling Ash trees around base and re-inspect.	Average form, shape and condition. Dense asymmetric crown, moderate crown deadwood. Subject to past management - Lifted /Reduced. Trunk and basal epicormic growth. Heavily Ivy clad trunk. Seedling Ash around trunk root crown.	B2
T61	Poplar, Lombardy	Remove/ ring ivy. Remove epicormic growth to a height of 3m. Remove Elder around root crown and re-inspect.	Average form, shape and condition. Dense asymmetric crown, moderate crown deadwood. Subject to past management - Lifted /Reduced. Trunk and basal epicormic growth. Ivy clad trunk. Elder seedlings around root crown area.	B2
T63	Poplar, Lombardy	Remove Elder seedlings around trunk base and re-inspect. Remove epicormic growth to a height of 3m	Average form, shape and condition. Dense asymmetric crown, moderate crown deadwood. Subject to past management - Lifted /Reduced. Trunk and basal epicormic growth. Elder seedlings hindering inspection.	B2
T70	Cherry	Crown lift to 3m over footpath	Average form, shape and condition. Slightly asymmetric canopy. Dense crown, low crown deadwood. Low branches overhanging footpath.	B2
T71	Poplar, Lombardy	Remove Elder seedlings around trunk base and re-inspect. Remove epicormic growth to a height of 3m	Average form, shape and condition. Dense asymmetric crown, moderate crown deadwood. Subject to past management - Lifted /Reduced. Trunk and basal epicormic growth. Elder seedlings hindering inspection.	B2
T72	Poplar, Lombardy	Remove Elder seedlings around trunk base and re-inspect. Remove epicormic growth to a height of 3m	Average form, shape and condition. Dense asymmetric crown, moderate crown deadwood. Subject to past management - Lifted /Reduced. Trunk and basal epicormic growth. Elder seedlings hindering inspection.	B2
T73	Sycamore	Remove epicormic growth to a height of 3m - re-inspect.	Average form, shape and condition. Subject to past management - Lifted /Thinned. Basal epicormic growth. Dense upper crown, low crown deadwood.	B2
T74	Pear	Remove epicormic growth to a height of 3m. re-inspect. Remove dead wood >10cm diameter throughout the crown	Average form, shape and condition. Multiple stemmed tree. Dense crown, moderate crown deadwood. Basal epicormic growth.	C2
T75	Pear	Remove epicormic growth to a height of 3m. re-inspect. Remove dead wood >10cm diameter throughout the crown	Average form, shape and condition. Multiple stemmed tree. Dense crown, moderate crown deadwood. Basal epicormic growth. Multiple, partially occluded trunk wounds on most northern stem.	C2
T76	Cedar of Lebanon	Crown lift to 3m over public footpath / car park. Remove dead wood >10cm diameter throughout the crown	Good form, shape and condition. Dense crown, moderate crown deadwood. Slight gap in crown. Low branches.	B1
T83	Ash	Remove dead wood >10cm diameter throughout the crown	Average form, shape and condition. Subject to past management - Lifted 4m. Dense crown, moderate crown deadwood.	B2
T84	Lime	Remove epicormic growth to a height of 4m	Average slightly suppressed form, shape and condition. Dense crown, low crown deadwood. Previously crown lifted. Co-dominant tree with included unions. Trunk epicormic growth to 2.5m.	C2
T86	Red Oak	Remove dead wood >10cm diameter throughout the crown	Average form, shape and condition. Dense crown, moderate crown deadwood. Subject to past management - Lifted 4m. Asymmetric canopy.	B2
T87	Lime	Remove epicormic growth to a height of 5m	Average form, shape and condition. Dense crown, low crown deadwood. Subject to past management - Lifted / Crown reduced. Trunk epicormic growth to crown break at 5m.	B2
T89	Lime	Remove dead wood >10cm diameter throughout the crown Remove epicormic growth to a height of 4m. Re-inspect for	Poor form, shape and condition. Showing signs of stress with sparse crown extremities / short shoots. Basal / trunk epicormic growth. High crown	C2

Tree No.	Species	Proposed Tree Works	Reason	BS Cat
		decay at root crown.	deadwood. x 3 large trunk wounds on east trunk between 1-3m.	
T90	Lime	Remove dead wood >10cm diameter throughout the crown Remove epicormic growth to a height of 4m - re-inspect for basal decay.	Poor form, shape and condition. Showing signs of stress with sparse crown extremities / short shoots. Upper crown in decline. Basal / trunk epicormic growth - Hindering basal trunk inspection. Fence screed to trunk.	C2
T91	Lime	Remove epicormic growth to a height of 4m - re-inspect.	Average form, shape and condition. Dense crown, low/moderate crown deadwood. Basal / trunk epicormic growth - unable to fully inspect. Fenced attached to trunk.	C2
T94	Blue Atlas Cedar	Remove dead wood >10cm diameter throughout the crown. Remove root crown vegetation and re-inspect.	Average form, shape and condition. Dense crown, low / moderate crown deadwood. Asymmetric crown. Dense vegetation hindering root crown inspection.	C2
T95	Blue Atlas Cedar	Remove dead wood >10cm diameter throughout the crown. Remove root crown vegetation and re-inspect.	Average / asymmetric form, shape and condition. Dense crown, moderate crown deadwood. Dense vegetation hindering root crown inspection.	B2
T96	Lime	Remove dead wood >10cm diameter throughout the crown Remove epicormic growth to a height of 3m - re-inspect	Poor / Average form, shape and condition. Thinning upper crown, moderate/major crown deadwood - large dead limb to south. Dense basal / trunk epicormic growth - hindering inspection.	C2
T97	Lime	Remove epicormic growth to a height of 3m - re-inspect root crown.	Poor form, shape and condition. Subject to past management - 'Topped' at 8m. Dense crown / trunk re-growth, low crown deadwood. Dense basal / trunk epicormic growth.	C2
T98	Hornbeam	Remove dead wood >10cm diameter throughout the crown	Poor form, shape and condition. Subject to past management - Lifted. Showing signs of stress with sparse crown extremities / short shoots - moderate crown deadwood. Basal trunk wound with moderate decay.	C2
T100	Lime	Remove epicormic growth to a height of 2m	Poor form, shape and condition. Tree 'topped' @ 6m. Dense epicormic re-growth to trunk and root crown. Trunk wound and cavity at 2m.	C2
T103	Lime	Remove epicormic growth to a height of 3m - re-inspect	Poor form, shape and condition. Tree previously 'topped' @ 10m. Vigorous basal / trunk epicormic growth - hindering root crown inspection.	C2
T104	Lime	Remove epicormic growth to a height of 3m - re-inspect	Poor form, shape and condition. Tree previously 'topped' @ 10m. Vigorous basal / trunk epicormic growth - hindering root crown inspection.	C2
T106	Lime	Remove epicormic growth to a height of 4m - re-inspect. Remove dead limb over road as soon as practicable.	Poor form, shape and condition. Tree previously 'topped' @ 8m. Vigorous basal / trunk epicormic growth - hindering root crown inspection. x 1 large dead limb over highway.	C2
T107	Lime	Remove epicormic growth to a height of 3m - re-inspect	Poor form, shape and condition. Tree previously 'topped' @ 10m. Vigorous basal / trunk epicormic growth - hindering root crown inspection.	C2
T108	Beech	Remove dead wood >10cm diameter throughout the crown	Average form, shape and condition. Dense crown, moderate crown deadwood. Asymmetric canopy.	B2
T109	London Plane	Crown reduce and reshape asymmetric crown by 30% to suitable side growth points retaining a flowing canopy shape. Remove dead wood >10cm diameter throughout the crown	Average form, shape and condition. Asymmetric canopy. Dense crown, low/moderate crown deadwood. Multiple trunk pruning wounds / cavities on main trunk.	B2
T110	London Plane	Remove dead wood >10cm diameter throughout the crown. Sever / cut ivy to 2m and strip.	Average form, shape and condition. Heavily asymmetric canopy to west. Dense crown, low/moderate crown deadwood. Ivy clad trunk.	B2
T111	London Plane	Remove dead wood >10cm diameter throughout the crown	Poor suppressed form, etiolated shape and condition. Asymmetric canopy. Dense upper crown, moderate crown deadwood. High H:D trunk ratio.	C2
T112	London Plane	Crown reduce and reshape asymmetric crown by 30% to suitable side growth points retaining a flowing canopy shape over road. Remove dead wood >10cm diameter throughout the crown	Poor asymmetric, etiolated form over road. Average condition. Open crown, low/moderate crown deadwood. Multiple trunk pruning wounds / cavities on main trunk.	C2
T113	London Plane	Crown reduce and reshape asymmetric crown by 30% to suitable side growth points retaining a flowing canopy shape over site access path. Remove dead wood >10cm diameter throughout the crown	Poor, asymmetric form over pedestrian site entrance. Open crown, low/moderate crown deadwood.	C2

Tree No.	Species	Proposed Tree Works	Reason	BS Cat
T119	Ornamental Apple	Remove/ ring Ivy. Crown reduce and reshape by 20-30% to suitable side growth points retaining a flowing canopy shape to reshape asymmetric crown.	Poor, asymmetric form, shape and condition. Dense crown, moderate/major crown deadwood. Ivy clad crown and stem.	C2
T130	Holm Oak	Crown reduce and reshape by 20-30% to suitable side growth points retaining a flowing canopy shape to re-balance asymmetric crown.	Average form, shape and condition. Asymmetric canopy. Subject to past management - Reduced/Cut back from adjacent building. Dense crown, moderate crown deadwood. Ivy clad crown and stem.	B2

To Be Removed

Tree No.	Species	Proposed Tree Works	Observations	BS Cat
TG1	Cordyline (Palm)X 5	Fell to ground level Remove stumps completely	In conflict with the proposed new external hard / soft landscaping	C2
T1	Elm	Fell to ground level Remove stumps completely	In conflict with the proposed new car park layout	C2
T6	Bird Cherry			C2
T7	Bird Cherry			C2
T8	Bird Cherry			C2
T9	Mountain Ash			C2
T10	Hybrid Poplar	Fell to ground level Remove stumps completely	Poor form, shape and condition. Overhangs main site entrance path. Subject to past management - Lifted /Reduced. Basal / trunk epicormic growth- recently pruned to 3m. Asymmetric canopy. Mower / strimmer damage to buttress / surface structural root	C2
T12	Norway Maple	Fell to ground level Remove stumps completely	In conflict with the proposed new building	C2
T13	Norway Maple			C2
T14	Ornamental Apple			C2
T15	Ornamental Apple			C2
T16	Cuppressus sempervirons			B1
T17	Magnolia			C1
T18	Dead tree	Fell to ground level Remove stumps completely	Dead tree	U
T20	Silver Birch	Tree Felled. Remove Stump completely	Poor form, shape and condition. Showing signs of stress with sparse crown extremities / short shoots. Crown in decline - high crown deadwood, some hanging.	U
T22	Silver Birch	Fell to ground level Remove stumps completely	Poor form, shape and condition. Suppressed and etiolated tree with asymmetric canopy. Subject to past management - Lifted. Trunk epicormic growth.	C2
T23	Silver Birch	Tree Felled. Remove Stump completely	Windblown tree	U
T24	Cherry	Fell to ground level.	Top snapped out. High deadwood.	U
T30	Laurel	Fell to ground level Remove stumps completely	In conflict with the proposed new external hard / soft landscaping	C2
T31	Ash			C2
T32	Ash			C2

Tree No.	Species	Proposed Tree Works	Observations	BS Cat
T33	Cherry	Fell to ground level Remove stumps completely	Poor form, shape and condition. Showing signs of stress with sparse crown extremities / short shoots. Crown in decline. Asymmetric canopy. Soil heavily compacted within rooting zone.	U
T35	Holm Oak	Fell to ground level Remove stumps completely	In conflict with development proposal	C2
T36	Hawthorn	Fell to ground level Remove stumps completely	In conflict with development proposal	C2
T37	Sycamore	Fell to ground level Remove stumps completely	Poor form, shape and condition. Showing signs of stress with sparse crown extremities / short shoots. Bacterial exudate om main trunk. High upper crown deadwood. x 5 partially occluded trunk wounds.	U
T39	Holm Oak	Fell to ground level Remove stumps completely	Poor form, shape and condition. Dense asymmetric crown, low crown deadwood. Suppressed specimen. Co-dominant tree with included unions.	U
T42	Mountain Ash	Fell to ground level Remove stumps completely	In conflict with the proposed new external building and / or hard / soft landscaping	B2
T43	Sorbus sp.			B2
T44	Yew			C2
T45	Holm Oak			B2
T46	Medlar	Fell to ground level Remove stumps completely	Poor form, shape and condition. Co-dominant tree with included unions. Asymmetric canopy over the footpath. Heavily fruiting.	C2
T49	Hawthorn	Fell to ground level Remove stumps completely	Poor form, shape and condition. Subject to past management - Lifted. Showing signs of stress with sparse crown extremities / short shoots. Sparse crown, high deadwood.	C2
T50	Hawthorn	Fell to ground level Remove stumps completely	Poor form, shape and condition. Subject to past management - Lifted. Showing signs of stress with sparse crown extremities / short shoots. Sparse crown, high deadwood.	C2
T51	Judas Tree	Fell to ground level Remove stumps completely	Poor form, shape and condition. Young newly poorly established tree. Still staked. High crown deadwood.	U
T52	Weeping Willow	Fell to ground level Remove stumps completely	Poor form, shape and condition. Young newly established tree - still staked. High crown deadwood.	U
T62	Poplar, Lombardy	Fell to ground level as soon as practicable. Remove stump completely.	Average form, shape and condition. Dense crown, moderate crown deadwood. Subject to past management - Lifted /Reduced. Large basal trunk wound with advanced decay and multiple fresh fungal fruiting brackets, suspected Rigidoporus ulmarius, x 6 observed around trunk crown break. Tree recently 'split-out main leading stem in high storm winds. Oct. 2013.	U
T68	Ash	Fell to ground level Remove stumps completely	In conflict with new hard landscaping development proposal	C2
T69	Lilac	Fell to ground level Remove stumps completely	In conflict with new hard landscaping development proposal	C2
T78	Silver Birch	Fell to ground level Remove stumps completely	Poor form, shape and condition. Dense crown, low/moderate crown deadwood. Stem 'dog-legged' and leaning over adjacent building. Asymmetric canopy over building.	C2
T81	Cherry	Fell to ground level Remove stumps completely	In conflict with the proposed new external hard / soft landscaping	C2
T82	Lime	Fell to ground level Remove stumps completely	In conflict with the proposed new external hard / soft landscaping	C2
T88	Lime	Fell to ground level Remove stumps completely	Poor form, shape and condition. Showing signs of stress with sparse crown extremities / short shoots. Upper crown in decline. Asymmetric canopy. Basal wound on south side with advanced decay - *Kretzschmeria deusta.*	U
T92	Blue Atlas Cedar	Fell to ground level Remove stumps completely	Tree declined due to likely infection by Honey Fungus. Now almost completely dead.	U
T99	Lime	Fell to ground level Remove stumps completely	Poor form, shape and condition. Showing signs of stress with sparse crown extremities / short shoots. Storm damaged crown. Central leader lost in past. Crown in decline	U
T101	Hawthorn	Fell to ground level Remove stumps completely	In conflict with the proposed new external hard / soft landscaping	C2
T105	Horse Chestnut	Tree Felled. Stump to remove completely	Poor form, shape and condition. Open crown, defoliated. Large dead limbs in crown. Trunk epicormic growth. x 2 leading stems including with fresh cracking evident. Tree already condemned by tree officer. Tree felled.	U

Tree No.	Species	Proposed Tree Works	Observations	BS Cat
T115	Horse Chestnut	Tree Felled. Stump to remove completely	Good form, shape but now poor condition. Sparse crown, small leaves and high crown deadwood. Horse Chestnut Bleeding Canker exudate on main stem. Old pruning wounds and cavities. Long lateral extended limbs with high end weight x 3. Likely Honey Fungus	U
T116	Cherry	Windblown Tree Felled. Stump and root plate to be removed completely.	Average form, shape and condition. Dense upper crown, low crown deadwood. Subject to past management - Lifted. Basal trunk wound with surface root damage - mowing. Tree windblown with lifted root plate during storm Oct. 2013. Tree felled.	U
T121	Sycamore	Fell to ground level Remove stumps completely	In conflict with development proposal	B2

Appendix 6 – Site Inspection & Monitoring Schedule

In order to ensure that the principals of tree protection set out in the statement are adhered to, it is important to set out communication details for key individuals and tasks that require supervision. These details should be retained by all relevant parties and available on site at all times. Relevant parties will be advised of any changes in personnel or contractor during the development process.

To ensure that the construction process is undertaken with minimal disturbance to the retained tree stock, we recommend that an experienced Environmental Services arboricultural consultant be appointed to undertake regular inspections of the site according to a site inspection / supervision schedule below.

It is our experience that a mix of scheduled and unannounced site visits are appropriate these unannounced inspections will serve to identify any damage to the Tree Protection Fencing, poor working practices, potential problems and points of conflict between the construction process and the health of the trees. These reports will include recommendations for remedial action.

During these visits any changes to the proposed works will be discussed, their impact assessed and recommendations for best practice will be outlined. After each of these visits a copy of the report should be sent to the Site Agent, Local Authority Tree Officer and Client. The remedial action undertaken will be recorded on the next visit.

It should be noted that these visits will only be undertaken if a written instruction is received from the client prior to commencement of works on site.

With reference to relevant published guidance, the methodology of this statement follows a logical sequence essential to the efficacy of the protection measures. References may include: British Standard 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'; British Standard 3998:2010 'Tree Work - Recommendations' and National Joint Utilities Group 'Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees, Volume 4' 2007.

It is essential to the successful implementation of the principals set out in this document that effective supervision and enforcement are implemented from the outset as detailed in the following construction phases.

Constraints Item	Site Supervision required	Number of Visits Expected	Timing of Site Visits	Actual Visit Date
Tree works operations	Optional	Visit 1	Prior to construction	
Pre-commencement meeting between relevant parties informing Council of development start date	Yes	Visit 2	Prior to site clearance	
Establishment & protection of Root Protection Areas (RPA) for retained trees to 'sign off' installed tree protection fencing and temporary ground protection	Yes	Visit 2	Prior to site clearance	
Changes in soil levels in close proximity to retained trees – eg. retaining walls	Yes	Visit 3	During site clearance phase	
Location of temporary access route through / adjacent to the retained trees and for access for construction vehicles and avoidance of compaction to the RPA of retained trees	Yes	Visit 3	During construction phase	
Protection and prevention of damage to retained tree canopies during construction	Yes	Visit 3	During construction phase	
Installation of 'Reduced / No-dig' special surfacing within / through retained tree RPAs	Yes	Visit 4	During construction phase	
Excavation of services trenches in close proximity to retained trees	Possible	Visit 5	During construction phase	
Generic construction site constraints: **1 Site office / Welfare unit location** **2 Temporary toilets** **3 Siting of bonfires** **4 Location of contaminant storage and washout areas** **5 Location of stripped topsoil**	Yes	Visit 3	During construction phase	
Post construction site assessment for any required remedial treeworks operations recommendations.	Yes	Visit 6	Post construction	

Appendix 7 – BS5837: 2012 Tree Constraints & Protection Methods

Phase 1 Pre-Construction Meeting

Prior to commencement of the works an onsite meeting will be held with all relevant parties including the site agent and appointed Environmental Services arboricultural consultant of works. The purpose of this meeting is to record site features including tree condition, agree tree works (See Tree Works Schedule, location of site storage and welfare facilities and the location of tree protection measures.

Phase 2 Tree Protection Measures

Subject to planning the Tree Protection Measures outlined in this report will be revisited in detail based on the working drawings, construction programme and method statement to be prepared.

Tree protection fencing should be installed prior to any demolition or ground-works commencing, remain in place throughout construction and be removed only after completion.

The provision of tree protection and light tree surgery will reduce the risk of direct damage to the retained trees. The demolition and construction process should not be commenced until the tree surgery works has been completed and the protective areas have been fenced off.

Tree protection will be installed as per the Tree Protection Plan which will be agreed with the Local Authority Tree Officer and with reference to the British Standard 5837 2012 'Trees in relation to design, demolition and construction – Recommendations'. Prior to commencing any demolition or construction works, the fencing will be inspected by the appointed Environmental Services Arboricultural consultant.

Within the fenced zone, no materials or chemicals should be stored at any time, no fires should be lit, no pedestrian or vehicle traffic, and level changes within these areas should be kept to an absolute minimum. Every effort should be taken to protect a maximum possible area of the root system.

Within the Root Protection Area no level changes or excavation within the RPA should be undertaken without the consent of the LPA Tree Officer.

Clear notices are to be fixed to the outside of the fencing with words such as 'TREE PROTECTION AREA – NO ACCESS OR WORKING WITHIN THIS AREA'. See Appendix 8.

The site agent, all contractors and other relevant personnel are to be informed of the role of the Tree Protection Fencing and their importance. A copy of the Tree Protection Plan will be displayed on site at all times during construction.

Phase 3 Demolition and Enabling Works

Prior to any works commencing on site the Tree Protection Fencing will be erected. During demolition programme and enabling works the existing front access will be in use. Any plant or vehicles engaged in the demolition works will operate outside the fenced off No-Dig / Root Protection Areas.

Phase 4 Locations of Site Offices Compound and Storage Area

The site office, welfare facilities, storage yard and contractors parking area need to be located within an area of the site that is outside the Root Protection Area (RPA). The compound will remain at least 1 metre outside the RPA with access from the main access road.

All fuel storage and loose cement / sand to be batched and stored in the compound area.

Phase 5 Groundworks, Level Changes, Foundations and Services

All spoil, including excavated soil and demolition material will be removed from site or stored in a location remote from any tree protection barriers.

With regard to the drawings provided the construction of foundations for the new build is located beyond the Root Protection Area (RPA) of retained trees, therefore with regard to the health of the retained trees no specialised foundation design is required. If the subsoil is found to be plastic, the foundations will be specified to take into account the potential influence of the vegetation on the moisture content and volume of the subsoil.

We recommend that all drainage and underground service routes are located beyond the RPA of all the retained trees. If the service runs are to be located within the RPA, we recommend that this matter is dealt with by method statement secured by planning condition. If services are located within the RPA special implementation techniques such as moleing, airspade, or hand digging may be required by the LPA. In the majority of cases, however, careful excavation with a low tonnage mechanical excavator supervised by the Environmental Services consultant arboriculturist can adequately undertake services excavations. When tree roots are encountered, hand digging and root protection can then be undertaken as and when they are observed.

Phase 6 Dismantling Protection Barriers

Dismantling the protection barriers around retained trees may be required to allow completion of final surface treatments and landscaping. Supervision of this exercise and control of the landscaping thereafter will be administered by the appointed Environmental Services arboricultural consultant. The removal of the Tree Protection Fencing is not an opportunity for machinery to access the previously fenced off area.

No further excavation will be carried out during this process and soils levels will not be raised above that existing by greater than 100mm and not within 2m of the trunk. Any removal of existing structures within the Root Protection Area including gardens type walls or paths will be carried out by hand.

Appendix 8 – Tree and Ground Protection Specification

on retained hard surfacing or it is otherwise unfeasible to use ground pins, e.g. due to the presence of underground services, the stabilizer struts should be mounted on a block tray (Figure 3b).

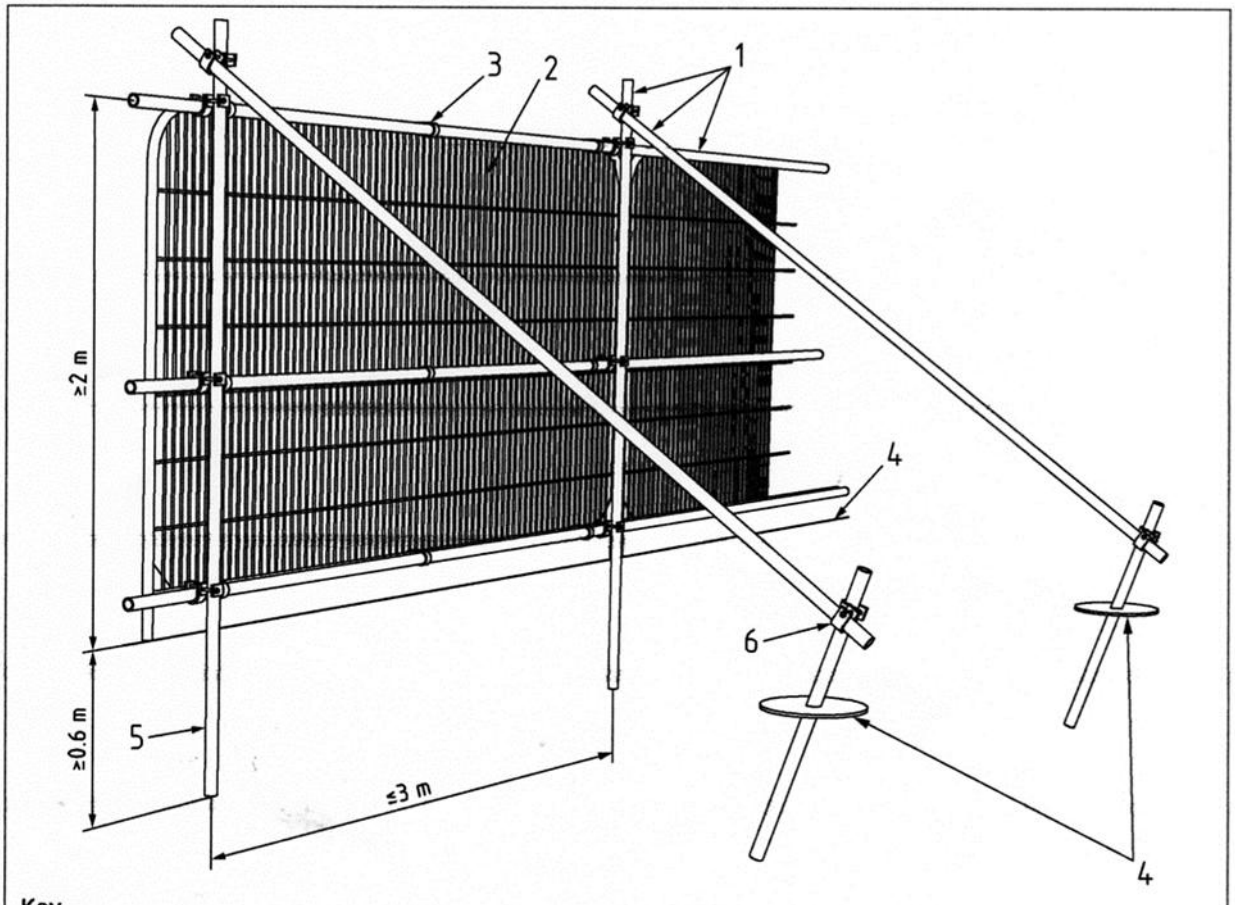
NOTE 1 Examples of configurations for steel mesh perimeter fencing systems are given in BS 1722-18.

NOTE 2 It might be feasible on some sites to use temporary site office buildings as components of the tree protection barriers, provided these can be installed and removed without damaging the retained trees or their rooting environment.

6.2.2.4 All-weather notices should be attached to the barrier with words such as:

"CONSTRUCTION EXCLUSION ZONE – NO ACCESS".

Figure 2 **Default specification for protective barrier**

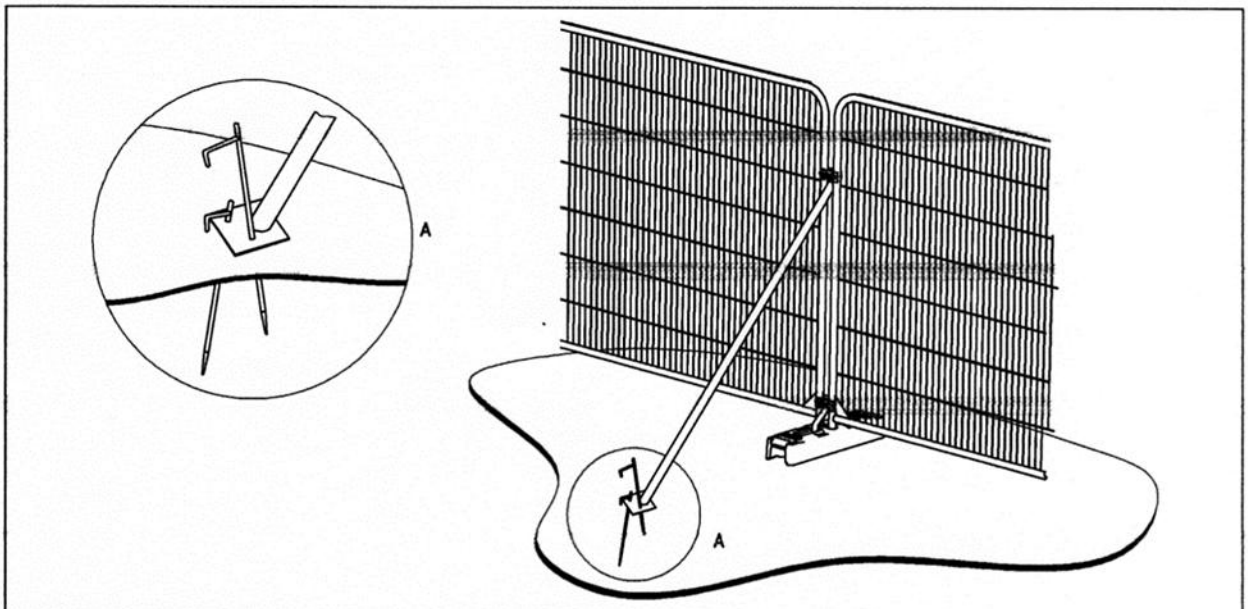


Key

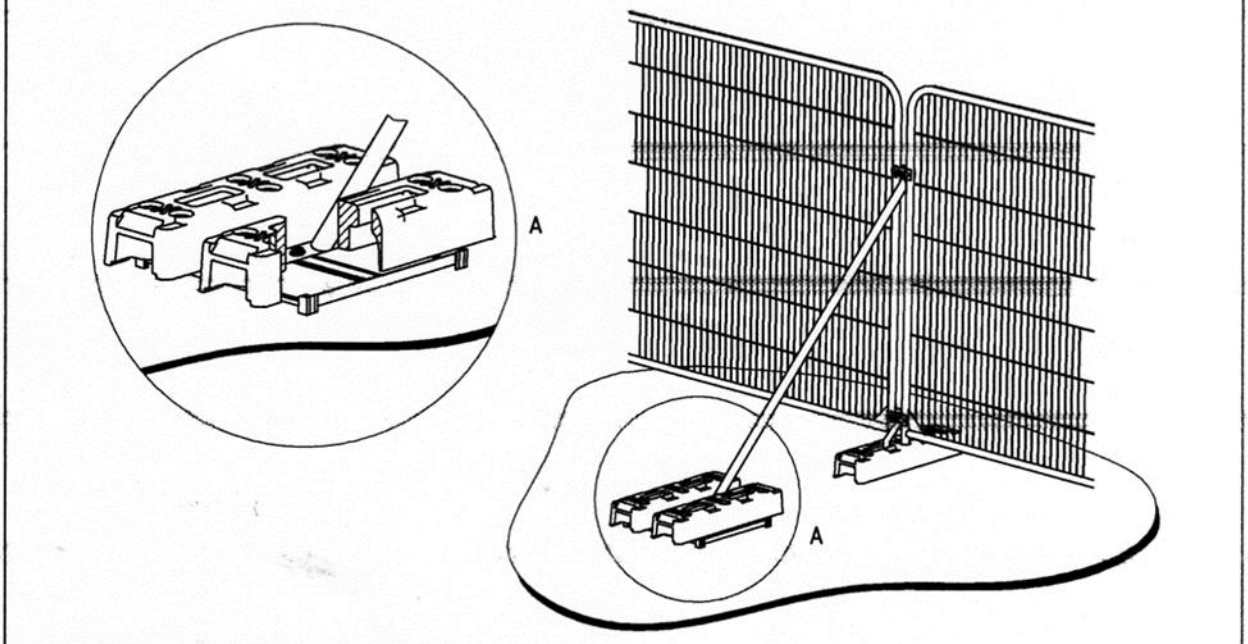
1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

BRITISH STANDARD **BS 5837:2012**

Figure 3 **Examples of above-ground stabilizing systems**



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

6.2.3 Ground protection during demolition and construction

6.2.3.1 Where construction working space or temporary construction access is justified within the RPA, this should be facilitated by a set-back in the alignment of the tree protection barrier. In such areas, suitable existing hard surfacing that is not proposed for re-use as part of the finished design should be retained to act as temporary ground protection during construction, rather than being removed during demolition. The suitability of such surfacing for this purpose should be evaluated by the project arboriculturist and an engineer as appropriate.

Suggested protective fencing warning sign format

TREE PROTECTION AREA

KEEP OUT

(TOWN & COUNTRY PLANNING ACT 1990)

THE VEGETATION PROTECTED BY THIS FENCE IS PROTECTED BY PLANNING CONDITIONS AND/OR IS THE SUBJECT OF A TREE PRESERVATION ORDER.

IF YOU REQUIRE ACCESS INTO THIS AREA PLEASE CONTACT

planning@ innovation-environmental.co.uk

T: +44 (0)330 380 1036

Appendix 9 – Temporary Ground Protection Specification

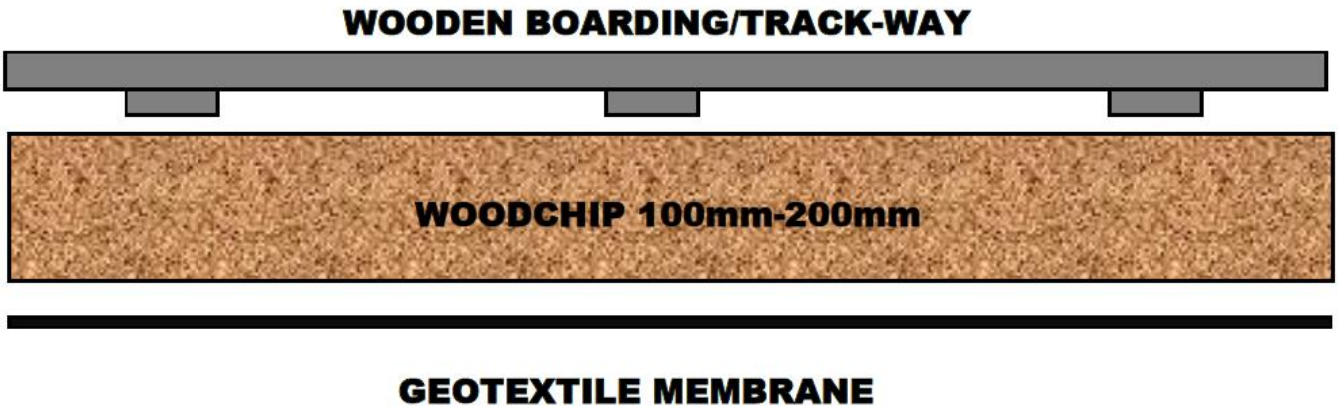
BS5837 recognizes that incursions in to the construction inclusion zones will be required at times during some developments.

The objective is to minimize soil compaction

Example 1 - *for pedestrian movements only, a single thickness of scaffold boards places either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g.) 100mm depth of woodchip), laid on to a geotextile membrane.*

Example 2 - *For pedestrian-operated plant up to a gross weight of 2 t, proprietary inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150mm depth of woodchip), laid onto a geotextile membrane;*

Example 3 - *For wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.*

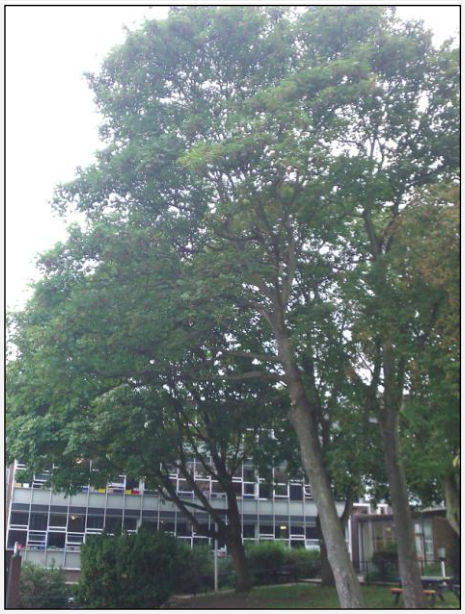


Appendix 10 – Photographs

Trees at pedestrian site entrance

T20-T41, courtyard trees

T25-T29



Sycamore and Norway Maple, T37-T38 and T40-T41

T45-T52

T56-T61, Lombardy Poplar

T117-T121

Rigidiporus on L.Poplar