Queen Elizabeth High School

Arboricultural Survey

December 2016

Waterman Infrastructure & Environment Limited
Merchants House, Wapping Road, Bristol, BS1 4RW
www.watermangroup.com

Client Name:	Education Funding Agency
Document Reference:	WIE10720-104-R-23-2-1-Arboricultural
Project Number:	WIE10720

Quality Assurance – Approval Status

This document has been prepared and checked in accordance with Waterman Group's IMS (BS EN ISO 9001: 2008, BS EN ISO 14001: 2004 and BS OHSAS 18001:2007).

Issue	Date	Prepared by	Checked by	Approved by
Second	December 2016	Robyn Ablitt Consultant	Jon Kiely Director	Jo Bagley Senior Associate Director

pp

Comments

Disclaimer

This report has been prepared by Waterman Infrastructure & Environment Limited, with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporation of our General Terms and Condition of Business and taking account of the resources devoted to us by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at its own risk.

Contents

Tables

Drawings

Appendices

1. Introduction

1.1. This baseline Arboricultural Survey has been prepared by Waterman Infrastructure & Environment Ltd (Waterman) on behalf of the Education Funding Agency (EFA) to inform the selection of a development option at Queen Elizabeth High School, Hexham, Northumberland (hereafter referred to as the 'Site').

1.2. This survey sets out the findings of an Arboricultural Survey of trees on, or in proximity to, the two final development options at the Site, as developed by the EFA. It is intended that the results of the survey will inform the development optioneering process. The area surveyed is shown in **Drawings 1 and 2**. The above and below ground constraints and opportunities posed by the canopy shape and rooting area of the surveyed trees are described and best practice for retention of trees in this context.

Tree Survey Methodology

1.3. The arboricultural survey and implications assessment were based upon existing topographical information relating to the Site drawn by RPS (document no. JKK9299 Revision A dated 19.10.16) and was otherwise conducted in accordance with the principles outlined within BS5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations[1] (BS5837) (see **Appendix A**).

1.4. Fieldwork was undertaken on 08 and 09 November 2016, which comprised a non-intrusive, visual survey undertaken at ground level, during which dimensional data and observational information were collected. A DBH tape measure and Leica Disto™ laser distance meter was used in the collection of data presented in this report.

1.5. Individual trees were recorded with a 'T' suffix, with groups a 'G' suffix.

Height

1.6. Unless otherwise stated, tree heights are approximate and estimated in metres.

Stem Diameter

1.7. The stem diameter of single stemmed trees on Site were measured at 1.5m above ground level and in millimetres. Where stems fork or swell, the measurement was taken at the narrowest point below the fork or swelling.

Crown Spread

1.8. Radial crown spread was measured in metres. These were recorded for each of the four cardinal points as access restrictions allow. Where direct access was not available (i.e. into off-Site areas), the spread was either estimated and identified by '*' on the accompanying schedule of existing trees, or taken as an average for all four cardinal points (**Appendix B**). The canopy shape for surveyed trees depicted on the accompanying **Drawings 1 and 2** is representative of the canopy spread as measured or estimated during fieldwork on the Site.

[1] BS5837:2012 Trees in relation to design, demolition and construction – Recommendations, 2012, British Standards Institution.

Height of Crown Clearance and Canopy

1.9. The height of crown clearance was measured as the height above ground in metres of the first significant branch and the direction of growth. The height of canopy was measured as the height above ground in metres of the main canopy.

Age Class

1.10. The age of each tree is defined as follows:

- Young (Y): Within the first 1/4 of useful life expectancy;
- Semi-mature (SM): Within the second 1/4 of useful life expectancy;
- Early Mature (EM): Within the third 1/4 of useful life expectancy;
- Mature (M): Within the fourth 1/4 of useful life expectancy;
- Over Mature (OM): Exceeded normal useful life expectancy; and
- Veteran (V): Significantly exceeded normal life expectancy and/or displays characteristics associated with a veteran tree.

Physiological and Structural Condition

1.11. The physiological and structural condition of each tree is summarised in this report, highlighting features relevant to the assessment process. This includes cultural conditions e.g. context and growing environment which may also be of relevance.

1.12. Unless otherwise stated, trees were found to be displaying 'normal' characteristics for their age, species and context. The physiological condition for each tree is described as Good (G), Fair (F) or Poor (P) or may comprise a range where this relates to grouped features. Where appropriate, notes on the structural integrity are provided on form, taper, forking habit, storm damage, decay, fungi, pests, etc. No invasive investigations or climbing inspections were carried out to confirm visual or audible signs of defect or debility and no tissue or soil samples were taken for laboratory analysis. Where identified, external signs of substantial defects or debility have been recorded.

Estimated Remaining Contribution in Years

1.13. The Estimated Remaining Contribution (ERC) for each tree is based on species, context and existing physiological and structural condition of the tree. The ERC may affect the Development because the longer the tree is likely to live, the greater the contribution it will make and the greater the need for retention.

Category Grading

1.14. Each individual tree was given a Category Grading in accordance with BS5837: 2012 to reflect the overall arboricultural value and retention category. The Category Grading's are defined according to the following criteria, and are further divided into sub-categories based on arboriculture, landscape and/or historic value, as defined within BS5837:2012 (**Appendix A)**:

- **Category Grading A:** Trees of high quality and value, (with a suggested remaining life expectancy exceeding 40 years);
- **Category Grading B:** Trees of moderate quality and value, (with a suggested remaining life expectancy of at least 20 years);

- **Category Grading C:** Trees of low quality and value, (with a suggested remaining life expectancy exceeding 10 years or young/immature trees which may have the potential to attract a higher Grade as they mature); and
- **Category Grading U:** Trees which are in such a condition that they are unsuitable for retention in the context of the current land use for longer than 10 years.

Preliminary Management Recommendations

1.15. Any recommendations made for management of the existing tree stock, (for example, tree surgery) are not a 'specification' for tree work. These recommendations are instead intended as a preliminary guide to inform future management of tree stock in the current context which should be formalised as a separate management plan. References to habitat value should be taken as comparative observations compared with a baseline situation with no tree present.

1.16. Any proposed tree surgery or inspection works should be undertaken by a qualified arboricultural contractor, such as those listed in the Arboricultural Association's Approved Contractors Directory[2]. Any work undertaken by the contractor should be in accordance with best practice, such as the European Tree Pruning Guide[3], or required by BS3998: 2010 Tree Work - Recommendations[4].

Limitations

1.17. Several trees and / or groups recorded as part of this survey were not shown within the topographical survey provided by RPS (T2, T6, G7, G9, T15, G22, G49, G53, G55, G56 and G63 as indicated within **Appendix B**). As such, the locations of these trees / groups on **Drawings 1 and 2** is approximate and should not be relied upon for construction related activities.

1.18. At the time of writing this report, the development proposals included refurbishment of several existing buildings and the potential refurbishment or demolition and rebuild of building EFAE, with associated construction access and compound requirements (see **Section 3** below and **Appendix C**). A number of trees recorded on the topographical survey by RPS were not surveyed as part of this survey as they exist outside of the agreed scope and it is understood that the proposed development would not impact upon these trees. Should Development proposals alter from those detailed within **Section 3** and subsequently occur in proximity to trees that have not been surveyed as part of this assessment, it is recommended that a survey in accordance with BS5837:2012 is undertaken on these trees to assess whether any likely impacts would occur as a result of the development proposals.

1.19. All trees were visually inspected from ground level with no climbing, boring or sampling undertaken. All measurements are metric and where qualified, approximate. The comments made were based on the conditions observable factors present at the time of inspection, including weather, seasonality and access.

1.20. This report is intended to assist with the optioneering, planning and management of refurbishment and/or construction / demolition operations under current best practice.

1.21. The Arboricultural Survey and this report does not constitute a tree risk assessment. This report is not intended to confirm the safety (or otherwise) of surveyed trees. References to defects or potential safety issues are not exhaustive intended as a guide only to inform the provision of further resources / more detailed investigations. The person(s) responsible for the management of the

[2] www.trees.org.uk
[3] European Tree Pruning Guide, 2001, Arboricultural Association
[4] BS3998:2010 'Treework - Recommendations', 2010, BSI

trees surveyed within this report are recommended to commission a separate tree condition survey by a suitably qualified and experienced person in order to manage the Health and Safety aspects of trees under their control, and discharge their reasonable Duty of Care (owed under the Occupiers' Liability Act 1984[5]).

Un-assessable Risks

1.22. Owing to the changing nature of trees as living, dynamic features and other Site circumstances, this report and any recommendations made remain valid for a period of 18 months from first issue.

1.23. Unless otherwise stated, trees should be re-inspected regularly to satisfy the 'Duty of Care' owed under the Occupiers' Liability Act 1984[6], or directly proceeding heavy storms (i.e. force 6-7 and above on the Beaufort scale). It is recommended that advice from an ecologist is sought prior to carrying out any works to trees, in order to ensure these are carried out in accordance with, (in particular) the protection afforded to wild birds and bats under The Wildlife and Countryside Act[7] and The Conservation of Habitats and Species Regulations[8].

Root Protection Area

1.24. The Root Protection Area (RPA) defines the approximate underground area occupied by the tree roots based on a calculation relating to the girth of the tree, point above ground at which the trunk begins to branch out and the number of stems. BS5837 outlines the calculation of RPA as follows:

$$\text{RPA}(\text{m}^2) = \left(\frac{\text{stem diameter (mm) @ 1.5 m} \times 12}{1\ 000}\right)^2 \times \pi\ (3.142)$$

1.25. Trees with more than one stem below 1.5m above ground level are given an aggregate stem diameter using either of the following two calculations as outlined in BS5837. This diameter is then used in the above calculation to estimate RPA:

a) For trees with two to five stems:

$$\sqrt{(\text{stem diameter 1})^2 + (\text{stem diameter 2})^2 \ldots + (\text{stem diameter 5})^2}$$

b) For trees with more than five stems:

$$\sqrt{(\text{mean stem diameter})^2 \times \text{number of stems}}$$

1.26. The RPA of existing tree stock is an important material consideration when considering Site constraints and planning development activities.

1.27. Construction activities, materials storage or changes in level should generally be avoided within the RPA of a tree to be retained. This is because these operations have the potential to damage or kill the tree, the safe retention of which may be a condition of planning permission. This is significant when considering construction in proximity to off-Site / third party land. Special construction

[5] Occupiers' Liability Acts 1957 and 1984. HMSO
[6] Occupiers' Liability Acts 1957 and 1984. HMSO
[7] The Wildlife and Countryside Act 1981 (as amended), OPSI
[8] The Conservation of Habitats and Species Regulations 2010, OPSI

techniques, i.e. no-dig construction / permeable surfacing may be considered for light loadings, e.g. pedestrian footpaths etc., within the RPA.

1.28. The RPA often varies in size to the physical area occupied by the canopy spread (due to particular tree species or management practices to artificially alter the canopy size). This is of particular importance when integrating new development in proximity of existing trees. Similarly, the canopy heights (as identified in the schedule of existing trees in **Appendix B**) should be considered as the usable space below a low branching tree, which can be severely restricted without specific arboricultural works to raise the canopy (which may not always be appropriate).

1.29. It should also be noted that BS5837 states that although RPAs should be plotted as a circle centred on the base of the stem, pre-existing site conditions or other factors may indicate that rooting has occurred asymmetrically and so RPAs may instead be represented as a polygon of equivalent area.

2. Fieldwork Observations

2.1. Tree survey data is presented in **Appendix B** and **Drawings 1** and **2**. The survey included 40No. individual trees and 23No. tree groups present within the survey area.

2.2. Trees within the survey area were mostly recorded within areas of mown grass and soft landscape, with a smaller number present within hard landscape (**Photographs 1, 2, 3 and 4**). The existing tree stock includes a mix of native and amenity deciduous and evergreen species, including Lime sp. (*Tilia sp.),* Silver Birch (*Betula pendula),* Cherry sp. (*Prunus sp.),* Plum sp. (*Prunus sp.),* Ash (*Fraxinus excelsior),* Goat Willow (*Salix caprea),* Norway Maple (*Acer platanoides),* Hawthorn (*Crataegus monogyna),* English Oak (*Quercus robur),* Sycamore (*Acer pseudoplatanus),* Sweet Chestnut *(Castanea sativa),* Beech *(Fagus sylvatica),* Horse Chestnut *(Aesculus hippocastanum),* Holly *(Ilex aquifolium),* Walnut *(Juglans regia),* English Elm *(Ulmus procera),* Elder *(Sambucus nigra),* Willow-leaved Pear *(Pyrus salicifolia* 'Pendula'), Red Oak *(Quercus rubra),* Laburnum *(Laburnum anagyroides),* Cherry Plum *(Prunus cerasifera* 'Nigra'), Apple *(Malus sp.),* Cherry Laurel *(Prunus laurocerasus),* Spruce *(Picea sp.),* Fern-leaved Beech *(Fagus sylvatica* 'Asplenifolia'), Yew *(Taxus baccata),* Blue Atlas Cedar *(Cedrus atlantica var. glauca),* Pine *(Pinus sp.),* Cypress *(Cupressus sp.),* Giant Sequoia *(Sequoiadendron gigantica),* Grey Poplar *(Populus x canescens),* Portuguese Laurel *(Prunus lusitanica),* Weeping Ash *(Fraxinus excelsior* 'Pendula') and Monkey Puzzle *(Araucaria araucana).* The trees surveyed vary from young to mature, with some of the larger specimens on Site considered likely to date from the construction of the buildings within the west of the Site in 1859.

2.3. Evidence of historic management was recorded, including general pruning/canopy lifting and reduction operations, topping and the removal of several specimens. However, instances of torn branches, branch stubs, suckering and epicormic growth, split branches, crossing and fused branches, overcrowded groups, deflection to boundary fencing (**Photograph 4**), conflict with parked vehicles and hanging deadwood suggests management may have lapsed in recent years.

Photograph 1 (G33)

Photograph 2 (T12 and T13)

Photograph 3 (T46)

Photograph 4 (T20)

2.4. Several exposed shallow surface roots (**Photograph 4**), strangler roots (**Photograph 5**) and instances of deflection to macadam, concrete surfacing and walls were recorded across the Site. This suggests challenging below-ground rooting conditions, the exact cause of which has not been determined at this time. Several trees also displayed signs of historic strimmer/ mower damage to exposed roots and / or root flares (**Photograph 6)**.

Photograph 5 (T10)

Photograph 6 (G17)

2.5. Variable degrees of wound wood development was noted in association with historic pruning wounds. This ranged from minimal (**Photograph 7**) to complete (**Photograph 8**) occlusion and infers a degree of variability in overall tree vigour within the existing tree stock. Several trees displayed large amounts of deadwood. This may be due, in part to challenging below-ground rooting conditions.

Photograph 7 (G33)

Photograph 8 (T3)

2.6. Several pests and / or diseases were identified including Tar Spot of Sycamore (*Rhytisma acerinum), Phellinus tuberculosus* fungi, unidentified fungi and oak leaf miners. Although visually disfiguring, Tar Spot of Sycamore and the leaf miners noted on Oak trees do not unduly impact tree growth and development. However, the *Phellinus tuberculosus* fungi recorded on T23 can have health implications and as such, this tree should be closely monitored. No evidence of Ash Dieback (*Hymenoscyphus fraxineus)* was detected on Site, however it is recommended that on-going monitoring of the ash trees on Site is undertaken for signs of this disease given that it is present and spreading within the Hexham area[9].

2.7. None of the trees surveyed are covered by Tree Preservation Orders. Hexham Conservation Area borders the eastern boundary of the Site, and following correspondence with Northumberland County Council's planning department, T20, T25 and part of G27 would likely be included within this designation. Northumberland County Council's tree and woodland management strategy 'Growing Together'[10] details the Council's strategy for trees within their ownership and on School sites. Policy NE33 – Protection of Trees, Woodlands and Hedgerows, Policy NE34 – Tree Felling, Policy NE35 – TPO's and Policy NE37 – Landscaping in New Developments of the Tynedale District Local Plan[11] are currently considered of relevance to the Site. These policies have not been superseded by the Tynedale Local Development Framework Core Strategy[12], but will be replaced when the Northumberland Core Strategy is adopted[13].

[9] Forestry Commission http://chalaramap.fera.defra.gov.uk/
[10] Northumberland County Council (2015). *'Growing Together' – A strategy for the management of Northumberland County Council's trees and woodland 2015-2020.*
[11] Tynedale Council (October 2007). *Tynedale District Local Plan - Schedule of Adopted Policies.*
[12] Tynedale Council (October 2007). *Tynedale Local Development Framework – Core Strategy.*
[13] http://www.northumberland.gov.uk/Planning/Planning-policy/Plan.aspx#localplan-corestrategy

3. Final Development Options

3.1. The two final development options, as developed by the EFA are shown in **Drawings 3 and 4**. In summary, these comprise;

Option 1 (**Drawing 3**):

- Refurbishment of buildings within the west of the site referenced EFAA, EFAB, EFAC and EFAD and refurbishment and / or demolition and rebuild of building referenced EFAE in **Appendix C** within the west of the Site;

Option 2 (**Drawing 4**):

- Refurbishment of buildings within the west of the site referenced EFAA, EFAB, EFAC and EFAD and refurbishment and / or demolition and rebuild of building referenced EFAE, in addition to refurbishment of building referenced EFAG in the east of the Site.

3.2. As shown on **Drawings 3 and 4** and due to the refurbishment nature of both Options, direct loss of trees is considered unlikely. EFAE is understood to either be refurbished or demolished and re-built. The demolition and rebuilding of this building is not considered likely to impact directly on existing trees due to a lack of trees within proximity to this building. It is understood that existing access routes would be utilised to facilitate either Option. Details regarding methods of refurbishment (and demolition and construction if undertaken), construction vehicles (dimensions and weight etc.), compounds/Site office locations and details of any external ground works or utilities upgrades etc. would need to be reviewed, once produced, to confirm whether impacts to existing trees/groups would occur as a result of implementing either Option.

4. Tree Protection

4.1. Within the Site, where existing trees are retained in proximity to construction works, tree protection will be required in order to manage and minimise potential impacts upon the existing trees to be retained. This includes both above and below ground impacts and extends to the working area required for refurbishment, demolition and construction works.

4.2. Tree protection should generally accord with the recommendations contained within BS5837. Ideally the area occupied by the canopy spread or RPA, (whichever is the greater) should be secured as a Construction Exclusion Zone, (CEZ) where no unauthorised access or construction operations are permitted. This should be secured by means of temporary protective fencing with weatherproof signage as per the examples provided within **Appendices D, E** and **F.** However, within an urban context this may prove impractical due to site access constraints etc. In this instance a CEZ can be used in combination with a Construction Working Area where limited/ controlled access and some construction activities may be permitted within the protected area. This will be managed with an Arboricultural Method Statement (AMS) that will be bespoke to the Site and activities concerned to prevent damage to retained trees.

4.3. The potential exists for the development of asymmetrical RPAs which may locally extend beyond the circular RPA stated on the Tree Survey drawings. Where root material is encountered in this manner, the extent of the controlled Construction Working Area should be extended to incorporate additional rooting areas as necessary.

4.4. Detailed tree protection proposals should be developed once detailed development proposals become available and it is further understood which trees will be retained.

5. Summary

5.1. The area surveyed included trees of mostly semi-mature age, present within a variety of locations including mown grass, soft landscaping, raised landscaped beds and hard landscape. The tree survey comprised a total of 40No. individual trees and 23No. tree groups, which are listed in the Schedule of Existing Trees within **Appendix B** and shown on **Drawings 1** and **2**. A summary of the trees surveyed and their Category Grading are described in **Table 1** below.

Table 1: Category Grading of Trees

Category	Quantity	Description
A	8	T3, G5, G33, G34, G37, T40, T52 and T60
B	19	G1, T4, T12, T20, T25, G27, T29, T35, T36, T39, T41, T43, T45, T46, T47, T48, T50, T51 and G63
C	36	T2, T6, G7, T8, G9, T10, G11, T13, T14, T15, G16, G17, T18, T19, T21, G22, T23, T24, T26, T28, T30, T31, G32, G38, T42, G44, G49, G53, G54, G55, G56, G57, T58, G59, T61 and T62
U	0	-

5.2. The 'A' Category trees are considered to be of high quality and value under BS5837 and also within the context of the Site. This reflects the size, age and screening, landscape, arboricultural and amenity value these trees and groups offer to the Site and adjacent land uses. Several of these trees are also considered to be irreplaceable specimen trees due to their size and good form. The 'B' Category trees are considered to be of moderate quality and value under BS5837 and also within the context of the Site. This reflects the relative condition and size of these trees, the amenity and screening/ landscape value they offer to the Site and their potential longevity. The 'C' Category trees are considered to be of low quality given their size and/ or vigour.

5.3. Evidence of historic tree management is present on the Site, including canopy-lifting and canopy reduction operations and evidence of tree removal, however the presence of defects such as torn branches, deflection to boundary fences, epicormic and suckering growth, crossing branches and overcrowded groups suggests management may have lapsed in recent years.

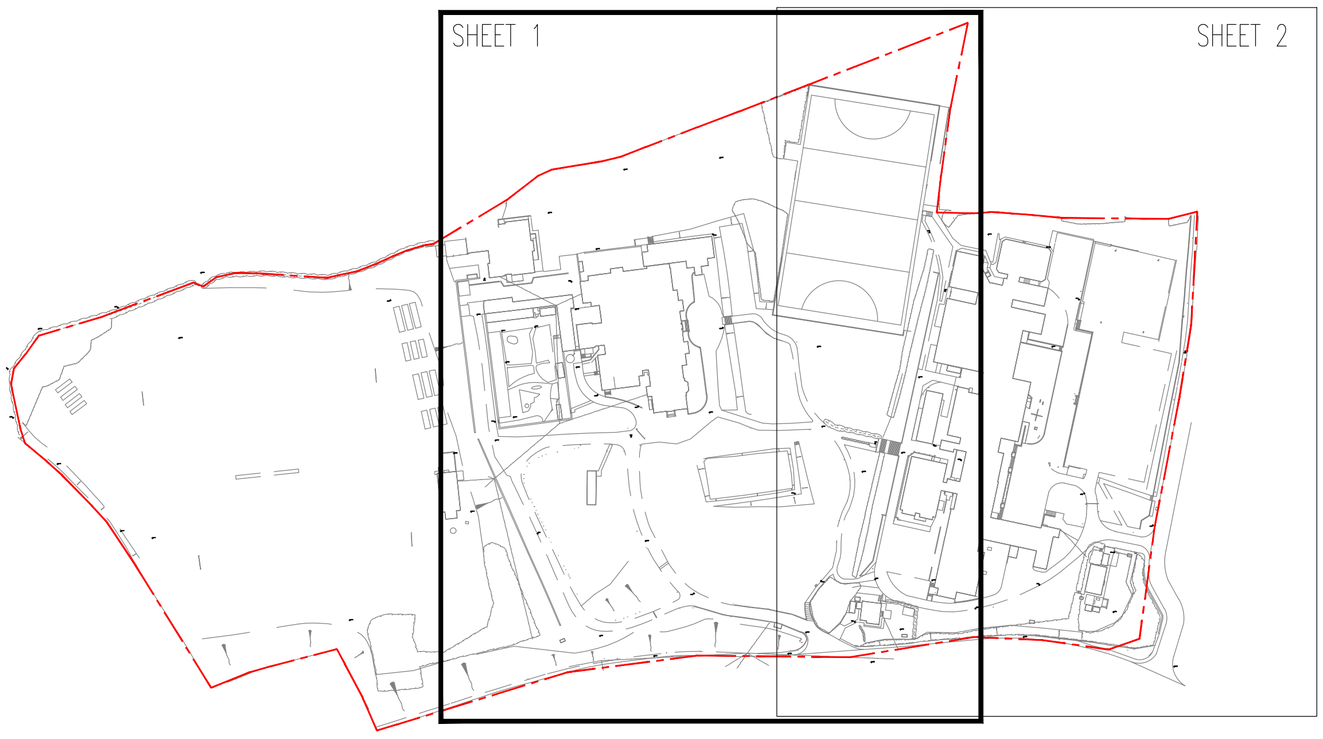
5.4. None of the trees surveyed are covered by Tree Preservation Orders however T20, T25 and part of G27 are likely to be protected under the Hexham Conservation Area designation.

5.5. No evidence of Ash Dieback (*Hymenoscyphus fraxineus)* was detected on Site, however it is recommended that on-going monitoring of the ash tree on Site is undertaken for signs of this disease given its presence within the Hexham area. Although the Tar Spot of Sycamore (*Rhytisma acerinum)* and leaf miners recorded within the survey area are visually disfiguring, these pathogens do not impact the long term health of the tree and as such, no treatment of this disease is considered necessary. The *Phellinus tuberculosus* fungi identified on T23 can have health implications and as such, T23 should be closely monitored. The unidentified fungi on-Site should also be identified to assess the significance of their presence to the health of the tree.

5.6. Based on information provided to date and in the absence of detailed designs, it is assessed that tree removal would be unlikely in order to facilitate the two final development Options. Details regarding methods of refurbishment (and demolition and construction if undertaken), access routes, construction vehicles (dimensions and weight etc.), compounds/Site office locations and details of external works and utilities upgrades etc. would need to be reviewed, once produced, to confirm whether any impacts to existing trees/groups would occur as a result of implementing either Option. Should any trees require removal to facilitate the chosen development Option,

replacement tree planting should be provided on Site in line with the Tynedale District Local Plan and the Council's tree and woodland management strategy 'Growing Together'.

Drawings



LEGEND

- CATEGORY GRADE A
  Trees of high quality
- CATEGORY GRADE B
  Trees of moderate quality
- CATEGORY GRADE C
  Trees of low quality
- CATEGORY GRADE U
  Trees unsuitable for retention
- ROOT PROTECTION AREAS (RPA)
- INDICATIVE EXTENT OF GROUPED FEATURE
- SITE BOUNDARY

NOTES:

ROOT PROTECTION AREA
Root Protection Areas are calculated in accordance with BS5837: 2012. The precise morphology and disposition of roots may not be fully reflected by these areas, particularly where there are hard standings, however they provide a good indication of potential root constraint.

THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH WATERMAN TREE SURVEY REPORT

1:500 0 10m 20m 30m 40m 50m

1:1 0 10 20 30 40 50 60 70 80 90 100

Rev	Date	Description	By
A01	28.11.16	PRELIMINARY ISSUE	DD

Amendments

Project
NORTH EAST SCHOOLS TECHNICAL ADVISORY

Title
QUEEN ELIZABETH HIGH SCHOOL
TREE SURVEY
SHEET 1

Client
Education Funding Agency

Merchants House Wapping Road Bristol BS1 4RW
t 0117 937 8200
mail@watermangroup.com www.watermangroup.com

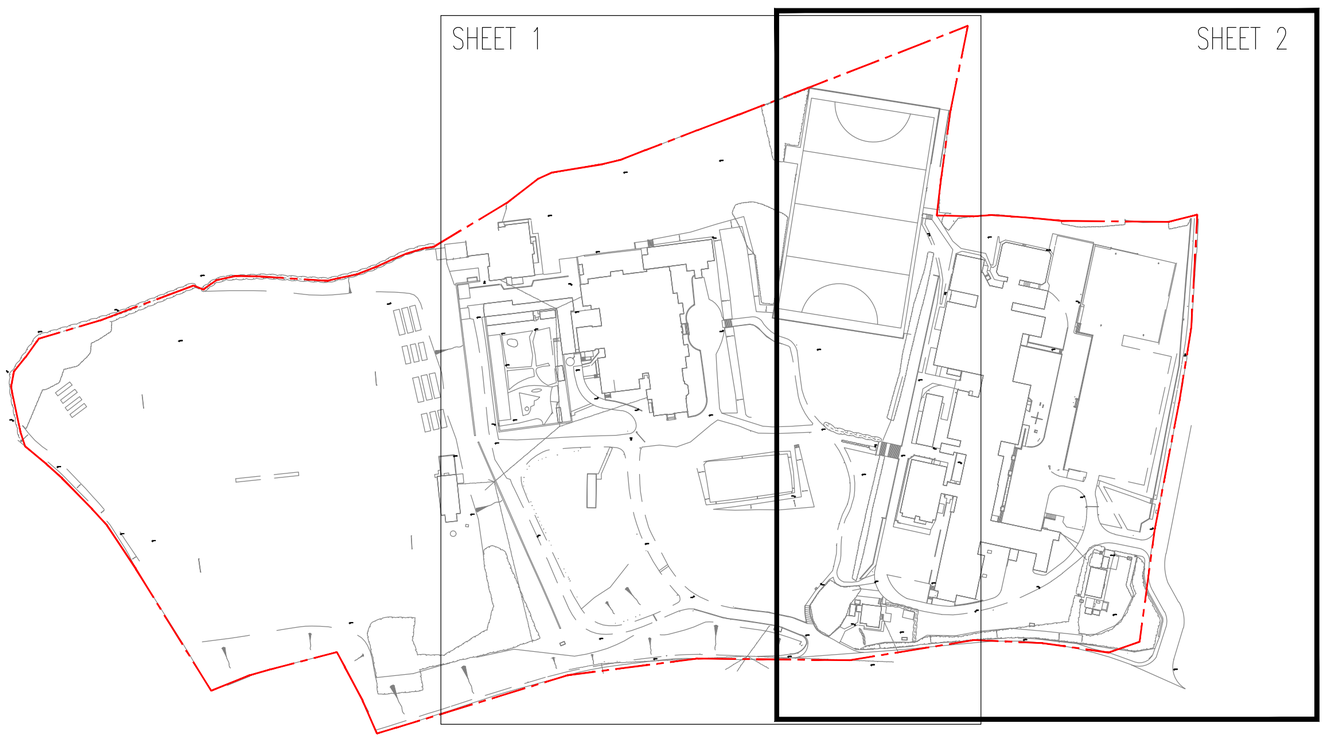
Drawing Status
PRELIMINARY

Designed by	RA	Checked by	TA	Project No	WIE10720
Drawn by	RSM	Date	NOV 2016	Work Order No	104
Scales @ A1 work to figured dimensions only	1:500				

Publisher	Zone	Category	Number	Revision
WIE	SA	77	020	A01

File Path Z:\Projects\WIE10720\104 - North East Schools Technical Advisory\7_CAD\77_Arboriculture\Layout\
File Name WIE-10720-104-SA-77-7420 (021) (QEH).dwg

A1P-Wat-T, WIE-10720-SA-NS-TOPO QEH, WIE-10720-SA-NS-TREE SURVEY QEH



LEGEND

- CATEGORY GRADE A
  Trees of high quality
- CATEGORY GRADE B
  Trees of moderate quality
- CATEGORY GRADE C
  Trees of low quality
- CATEGORY GRADE U
  Trees unsuitable for retention
- ROOT PROTECTION AREAS (RPA)
- INDICATIVE EXTENT OF GROUPED FEATURE
- SITE BOUNDARY

NOTES:

ROOT PROTECTION AREA
Root Protection Areas are calculated in accordance with BS5837: 2012. The precise morphology and disposition of roots may not be fully reflected by these areas, particularly where there are hard standings, however they provide a good indication of potential root constraint.

THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH WATERMAN TREE SURVEY REPORT

1:500 0 10m 20m 30m 40m 50m

1:1 0 10 20 30 40 50 60 70 80 90 100

Rev	Date	Description	By
A01	28.11.16	PRELIMINARY ISSUE	DD

Amendments

Project
NORTH EAST SCHOOLS TECHNICAL ADVISORY

Title
QUEEN ELIZABETH HIGH SCHOOL
TREE SURVEY
SHEET 2

Client
Education Funding Agency

Waterman
Merchants House Wapping Road Bristol BS1 4RW
t 0117 937 8200
mail@watermangroup.com www.watermangroup.com

Drawing Status
PRELIMINARY

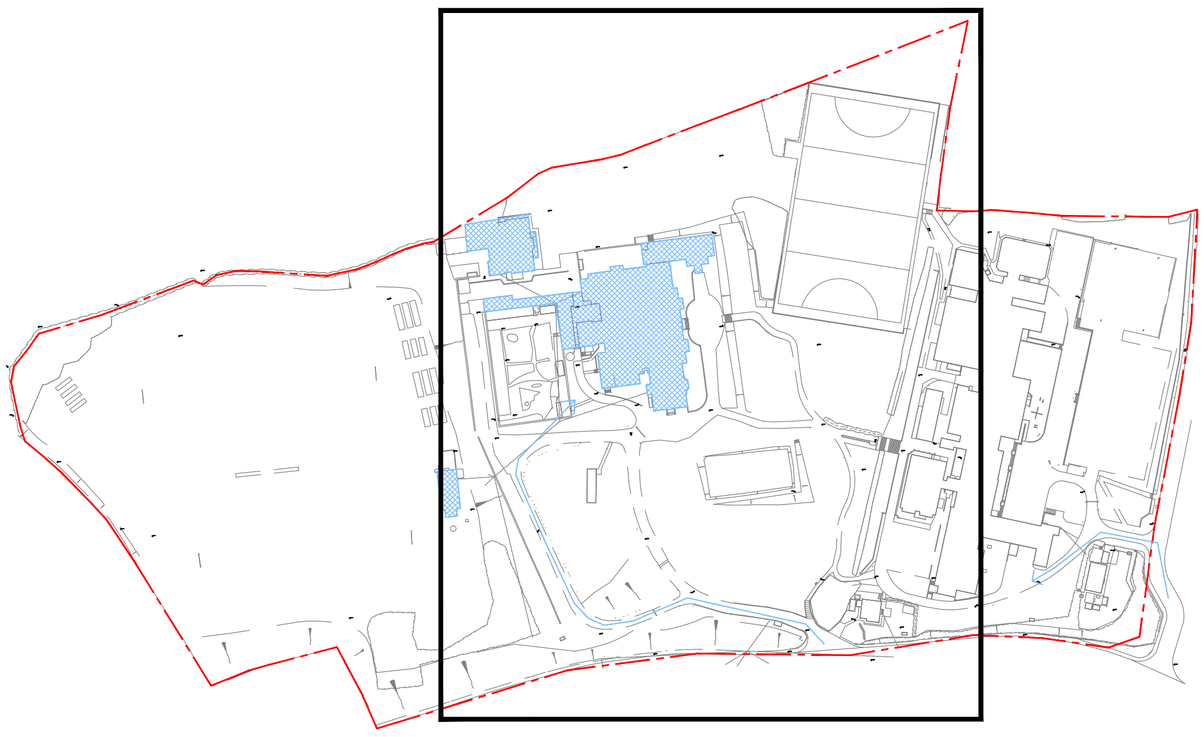
Designed by	Checked by	Project No
RA	TA	WIE10720
Drawn by	Date	Work Order No
RSM	NOV 2016	104

Scales @ A1
work to figured dimensions only
1:500

Publisher	Zone	Category	Number	Revision
WIE	SA	77	021	A01

File Path \\Hfnfss1\WIE\Projects\WIE10720\104 - North East Schools Technical Advisory\7_CAD\7_Arboriculture\Layout\
File Name WIE-10720-104-SA-77-A2(021) (QEH).dwg

A1P-Wat-T, WIE-10720-SA-NS-TOPO QEH, WIE-10720-SA-NS-TREE SURVEY QEH



LEGEND

- CATEGORY GRADE A
  Trees of high quality
- CATEGORY GRADE B
  Trees of moderate quality
- CATEGORY GRADE C
  Trees of low quality
- CATEGORY GRADE U
  Trees unsuitable for retention
- ROOT PROTECTION AREAS (RPA)
- INDICATIVE EXTENT OF GROUPED FEATURE
- SITE BOUNDARY
- PROPOSED CONSTRUCTION ACCESS ROUTE
- PROPOSED REFURBISHMENT

NOTES:

ROOT PROTECTION AREA
Root Protection Areas are calculated in accordance with BS5837: 2012. The precise morphology and disposition of roots may not be fully reflected by these areas, particularly where there are hard standings, however they provide a good indication of potential root constraint.

THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH WATERMAN TREE SURVEY REPORT

N

G5 G1 T2 T3 T4 G44 G55 G54 G53 G49 T45 T48 T52 T46 T51 T50 T43 T42 T47 T41 T39 T40 G38 G37 T36 T35 G34 G33 G32 T31 T30 G56 G63 T62 G57 T58 T61 T60 G59 T10 G11 T12 G9 T8 G7 T6

1:500 0 10m 20m 30m 40m 50m

1:1 0 10 20 30 40 50 60 70 80 90 100

Rev	Date	Description	By
A01	28.11.16	PRELIMINARY ISSUE	RSM

Amendments

Project
NORTH EAST SCHOOLS TECHNICAL ADVISORY

Title
QUEEN ELIZABETH HIGH SCHOOL
DEVELOPMENT OPTION 1

Client
Education Funding Agency

Merchants House Wapping Road Bristol BS1 4RW
t 0117 937 8200
mail@watermangroup.com www.watermangroup.com

Drawing Status
PRELIMINARY

Designed by	Checked by	Project No
RA	TA	WIE10720
Drawn by	Date	Work Order No
RSM	NOV 2016	104
Scales @ A1 work to figured dimensions only	1:500	

Publisher	Zone	Category	Number	Revision
WIE	SA	77	022	A01

File Path \\nthosts\WE\Projects\WIE10720\104 - North East Schools Technical Advisory\7_CAD\77_Arboriculture\Layout\
File Name WIE10720-104-SA-77-022 (023) (QEH).dwg

A1P-Wat-T

LEGEND

- CATEGORY GRADE A Trees of high quality
- CATEGORY GRADE B Trees of moderate quality
- CATEGORY GRADE C Trees of low quality
- CATEGORY GRADE U Trees unsuitable for retention
- ROOT PROTECTION AREAS (RPA)
- INDICATIVE EXTENT OF GROUPED FEATURE
- SITE BOUNDARY
- PROPOSED CONSTRUCTION ACCESS ROUTE
- PROPOSED REFURBISHMENT

NOTES:

ROOT PROTECTION AREA
Root Protection Areas are calculated in accordance with BS5837: 2012. The precise morphology and disposition of roots may not be fully reflected by these areas, particularly where there are hard standings, however they provide a good indication of potential root constraint.

THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH WATERMAN TREE SURVEY REPORT

Rev	Date	Description	By
A01	28.11.16	PRELIMINARY ISSUE	RSM

Amendments

Project
NORTH EAST SCHOOLS TECHNICAL ADVISORY

Title
QUEEN ELIZABETH HIGH SCHOOL
DEVELOPMENT OPTION 2

Client
Education Funding Agency

Waterman
Merchants House Wapping Road Bristol BS1 4RW
t 0117 937 8200
mail@watermangroup.com www.watermangroup.com

Drawing Status
PRELIMINARY

Designed by	RA	Checked by	RSM	Project No	WIE10720
Drawn by	TA	Date	NOV 2016	Work Order No	104
Scales @ A1 work to figured dimensions only	1:500				

Publisher	Zone	Category	Number	Revision
WIE	SA	77	023	A01

File Path Z:\Projects\WIE10720\104 - North East Schools Technical Advisory\7_CAD\7_Arboricultural Layouts\
File Name WIE-10720-104-SA-77-023 (023) QEH.dwg

A1-Wat-T, A1P-Wat-T, WIE-10720-SA-NS-TOPO QEH, WIE-10720-SA-NS-TREE SURVEY QEH

APPENDICES

A. Cascade Chart for Tree Quality Assessment (extract from BS5837:2012)

TREES FOR REMOVAL				
Category and Definition	**Criteria**			**Identification on Plan**
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning); • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline; and • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality. NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve.			DARK RED
TREES TO BE CONSIDERED FOR RETENTION				
Category and Definition	**Criteria - Subcategories**			**Identification on Plan**
	1 Mainly Arboricultural Values	2 Mainly Landscape Values	3 Mainly Cultural Values, including Conservation	
Category A **Trees of high quality** with an estimated remaining life expectancy minimum of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	LIGHT GREEN
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	MID BLUE
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	GREY

B. Schedule of Existing Trees

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
G1	2No. Sycamore *(Acer pseudoplatanus)*	15.0+	500, 600	Av. 6.5				3.0 (E)	2.0 (E)	Fair	SM – EM	Located within area of mown grass on edge of Site. Ivy *(Hedera helix)* growth to both. In mutual competition. Historic pruning wounds and torn limbs within. Tar spot of Sycamore *(Rhytisma acerinum)* present.	Of general amenity value to location in association with adjacent trees. Sever Ivy at base and remove from lower 1.0m of trunk. Monitor pruning wounds for signs of decay.	40+	B2
T2*	Sweet Chestnut *(Castanea sativa)*	5.0	90, 95	2.0	2.5	1.6	3.5	M/S from base	0.0	Fair	Y	Located within area of mown grass on edge of G5. Tertiary previous leader removed at base with decay noted. Minor deadwood within canopy. (*Note – location approximated on Drawing 1 due to lack of topographical information*).	Of nominal amenity value but with potential to increase with age. Consider formative pruning to raise canopy.	40+	C2
T3	Beech *(Fagus sylvatica)*	20.0+	800	7.0	5.2	6.8	7.5	Forks @ 1.6	Av. 1.8	Fair	EM	Located within area of mown grass on edge of G5. Historic pruning wounds on trunk now occluded. Pruned branch stubs present in canopy. Unidentified fungi present at base.	Of general amenity value to location and in association with adjacent trees. Consider formative pruning to remove branch stubs and allow for wound wood development. Identify fungi at base and significance to the health of the tree.	40+	A2

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
T4	Sycamore *(Acer pseudoplatanus)*	15.0+	800	3.8	5.3	5.5	6.7	Forks @ 1.6	Av. 1.8	Fair / Good	EM	Located on edge of G5 and in competition. Minor deflection noted to paved concrete slabs to the S. Forks at 1.6m Ht. with included bark below. Historic pruning wounds now occluded.	Of general amenity value to location and in association with adjacent trees.	40+	B2
G5	Beech *(Fagus sylvatica)*, Sycamore *(Acer pseudoplatanus)*, Horse Chestnut *(Aesculus hippocastanum)*, Holly *(Ilex aquifolium)*, Ash *(Fraxinus excelsior)* and Lime *(Tilia sp.)*	15.0+	<70 to 800	To 8.5				-	-	Fair – Good	Y-M	Located along the northern Site boundary and in mutual competition. Historic pruning wounds throughout. Several specimen's M/S in form with linear faults below branch forks. Decay noted to base of Horse Chestnut. Areas of suckering Lime.	Of amenity, screening and wildlife value to location. Monitor for signs of Ash Dieback Disease *(Hymenoscyphus fraxineus)* and Bleeding Canker of Horse Chestnut *(Pseudomonas syringae pv aesculi).*	40+	A2/3
T6*	Walnut *(Juglans regia)*	5.0	120	Av. 3.0				Av. 1.3	0.3 (NW)	Fair	SM	Located within area of mown grass. Tie present at base (not staked). Torn lower limbs on N side. Canopy slightly biased to SW. (*Note – location approximated on Drawing 1 due to lack of topographical information*).	Of nominal amenity value to location but potential to increase with age. Consider formative pruning to tidy torn branch stubs.	40+	C2

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
G7*	Sycamore *(Acer pseudoplatanus)*, English Elm *(Ulmus procera)*, Ash *(Fraxinus excelsior)*, English Oak *(Quercus robur)* and Elder *(Sambucus nigra)* stump	Av. 8.0	Av. 190	To 6.0				-	Av. 1.0	Poor – Fair	Y-SM	Located within area of mown grass on edge of macadam sports pitch. Historic pruning wounds throughout group with varying degrees of wound wood development. Elm is M/S in form. Elder previously cut to stump level with approx. 5 years' regrowth. (*Note – location approximated on Drawing 1 due to lack of topographical information*).	Of nominal amenity and screening value to location. Monitor for Dutch Elm Disease *(Ophiostoma novo-ulmi)* and Ash Dieback Disease *(Hymenoscyphus fraxineus).*	40+	C2
T8	English Elm *(Ulmus procera)*	7.0	8No. Av. 140	Av. 5.0				M/S from base	Av. 2.0	Fair	SM	Located within area of mown grass on edge of macadam sports pitch. M/S from base with further suckering growth. Numerous main leaders. Some wounds to trunks with staining. Historic pruning stubs and crossing branches.	Of nominal amenity value to location. Identify cause of staining and monitor for signs of Dutch Elm Disease *(Ophiostoma novo-ulmi).*	20+	C2
G9*	4No. Sycamore *(Acer pseudoplatanus)*	9.0	Av. 170	Av. 4.5				-	Av. 1.8	Fair	SM	Located within area of mown grass on edge of macadam sports pitch. M/S in form. Historic pruning wounds and limb removal wounds with limited wound wood development. Tar sport of Sycamore *Rhytisma acerinum.* (*Note – location approximated on Drawing 1 due to lack of topographical information*).	Of nominal amenity value to location. Consider selective thinning to favour the development of a lesser number of specimens.	40+	C2

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
T10	English Elm *(Ulmus procera)*	10.0	490	Av. 8.0				2.5 (S)	1.3 (E)	Fair	SM	Located on edge of area of mown grass with kerb edging to SW deflected. Historic pruning wounds with some wound wood development but also decay. Exposed shallow surface roots and minor strangler roots.	Of general amenity value to location. Monitor wound for signs of decay and monitor for signs of Dutch Elm Disease *(Ophiostoma novo-ulmi).*	20+	C2
G11	2No. Norway Maple *(Acer platanoides)*	6.0	Av. 140	Av. 3.0				Av. 2.0	Av. 2.0	Fair	Y-SM	Located within area of mown grass. In competition with T12. Historic pruning wounds on trunks with good wound wood development. Minor torn branch stubs.	Of nominal amenity value but potential to increase with age.	40+	C2
T12	Oak *(Quercus sp.)*	9.0	275	4.8	3.7	4.3	3.5	1.6 (E)	1.2 (E)	Fair / Good	SM	Located within area of mown grass. In competition with G11. Good buttress root development with exposed shallow surface root on N side. Minor torn branches and historic pruning wounds on trunk now occluded. Unidentified leaf miners present.	Of general amenity value to location with potential to increase with age. Monitor exposed shallow surface roots and consider formative pruning to tidy torn branch stubs.	40+	B2
T13	Willow-leaved Pear *(Pyrus salicifolia* 'Pendula')	4.0	225	Av. 3.0				Av. 2.5	0.0	Fair	SM	Located within area of mown grass. Top-grafted with contorted and twisted branches above graft. Historic wound on W side of trunk at 0.3m Ht. with limited wound wood development. Large amount of deadwood on underside of weeping canopy.	Of general amenity value to location. Monitor wounds for signs of decay.	20+	C2

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
T14	Cherry *(Prunus sp.)*	6.0	460 @ 1.0 (below canker)	6.0*	5.3	6.0	6.1	Av. 2.5	0.8 (E)	Poor	SM	Located within area of mown grass. Exposed shallow surface and strangler roots with historic strimmer damage and minor wound wood development. Numerous cankers to trunk and cracks to bark. Branch stubs and deadwood within canopy. Unidentified fungi present at base.	Of general amenity value to location. Monitor wounds for signs of decay. Identify fungi and significance to the health of the tree.	20+	C2
T15*	Plum (*Prunus domestica sp.*)	5.5	150, 130, 130, 80	Av. 2.5				M/S from base	Av. 1.9	Fair	SM	Located within area of mown grass. M/S from base with previous trunks removed at base with no wound wood development. Epicormic growth on trunk. Historic pruning wounds on trunk with some wound wood development. Linear cracks present on bark. (*Note – location approximated on Drawing 2 due to lack of topographical information*).	Of nominal amenity value to location. Monitor wounds for signs of decay.	20+	C2

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
G16	1No. Sycamore *(Acer pseudoplatanus)* and 2No. Cherry *(Prunus sp.)*	To 10.0	280 to 390	To 6.0				-	Av. 1.4	Poor – Fair	SM-EM	Located within area of bare ground within soft landscaping. Buckled wood below fork junctions on Sycamore. Central Cherry comprises 3 main trunks, 2 of which are crossing and twisted in form, with exposed shallow surface roots at base. Historic pruning wounds throughout with varying degrees of wound wood development. Ivy *(Hedera helix)* growth becoming established.	Of general amenity value to location as a group. Inspect for safety.	20+	C2
G17	3No. Cherry *(Prunus sp.)*	4.0 - 7.0	Av. 320	Av. 5.0				Av. 1.2	1.2 (W)	Poor / Fair	SM-EM	Located within area of mown grass. Exposed shallow surface roots on S-most and central tree with historic mower damage. Abscission compete on middle tree. Deadwood and pruning wounds throughout group with varying degrees of wound wood development. Large wound on S side of S-most tree with nominal wound wood development. N-most specimen topped at 4.0m Ht.	Of general amenity value to location as a group. Monitor wounds for signs of decay.	20+	C2
T18	Cherry *(Prunus sp.)*	4.5	100, 60	Av. 1.5				0.6 (NW)	Av. 1.4	Fair / Good	Y-SM	Located within area of mown grass. Historic pruning wounds on trunk now occluded. Minor deadwood within canopy.	Of nominal amenity value to location but potential to increase with age.	40+	C2

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
T19	Cherry *(Prunus sp.)*	2.5	80	Av. 1.0				1.2 (S)	Av. 1.6	Poor / Fair	Y	Located within area of mown grass. Memorial plaque at base. Historic pruning wounds on trunk occluded. Minor deadwood within canopy.	Of general cultural value and nominal amenity value to Site but with potential to increase with age.	40+	C3
T20	Red Oak *(Quercus rubra)*	10.0	900*	8.6	8.0	9.0*	8.7	Av. 1.8	Av. 4.0	Fair / Good	EM	Located within strip of soft landscape on edge of macadam playground. Soil erosion around base with extensive exposed shallow surface roots as a result. Deflection noted to metal chain link fencing to E. Historic pruning wounds with varying degrees of occlusion and further torn branch stubs. Included bark below branch forks.	Of general amenity value to location. Consider top-dressing roots and re-instating fence to prevent further deflection.	40+	B2
T21	Laburnum *(Laburnum anagyroides)*	3.5	70, 90, 40, 120	1.9	2.7	2.3	1.4	Av. 1.2	Av. 1.0	Fair	SM	Located within tree pit raised above the car park level. Leaning in form. Historic pruning wounds now occluded. Minor deadwood within canopy. Memorial plaque present.	Of general cultural value to location.	20+	C3

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
G22*	2No. Goat Willow *(Salix caprea)*	6.0	110*	Av. 3.5				0.0	0.1	Fair	SM	Located within strip of soft landscape between macadam car park and paved pathway. One specimen M/S in form. Canopies touching cars parked beneath. Relatively unmanaged in form. (*Note – location approximated on Drawing 2 due to lack of topographical information*).	Of nominal amenity value to location. Consider formative pruning to raise canopy above vehicles.	40+	C2
T23	Cherry Plum *(Prunus cerasifera* 'Nigra')	6.0	340	4.5	4.3	4.2	4.2	Av. 1.8	Av. 1.7	Fair	SM-EM	Located within an area of bare ground with several exposed shallow surface roots from over-run and soil erosion. Historic canopy reduction wounds. Linear faults below branch forks. Some torn stubs and further pruning wounds with varying degrees of wound wood development. Cracks and fissures to bark on trunk. Historic wound on E side of trunk now 50% occluded. *Phellinus tuberculosus* fungi noted around fork junctions.	Of nominal amenity value to location. Monitor wounds for signs of decay and monitor progression of fungi.	20+	C2
T24	Cherry *(Prunus sp.)*	9.0	550*	Av. 4.0				1.7 (N)	Av. 4.0	Fair	EM	Located within area of mown grass in residential garden. Good buttress root development. Restricted access limits further visual inspection.	Of nominal amenity value to location.	40+	C2

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
T25	Lime sp. *(Tilia sp.)*	15.0	900*	Av. 6.0				2.5 (S)	1.0 (SE)	Fair	EM-M	Located on edge of G27 above retaining stone wall (0.5m Ht.). Deflection noted to wall. Cankers on trunk and Ivy *(Hedera helix)* becoming established on main trunks. Canopy reduction wounds on all sides. Forks at 0.6m Ht.	Of general amenity and screening value to location in association with adjacent trees. Monitor fork junction for safety. Sever Ivy at base and remove from lower 1.0m of trunk.	40+	B2
T26	Apple *(Malus sp.)*	5.0	130*	Av. 2.5				Forks @ 1.3	Av. 1.3	Fair	SM	Located within area of mown grass in residential garden. Slightly scrubby in form. Restricted access limits further visual inspection.	Of nominal amenity value to location.	20+	C2

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
G27	Beech *(Fagus sylvatica)*, Sycamore *(Acer pseudoplatanus)*, Ash *(Fraxinus excelsior)*, Lime *(Tilia sp.)*, Horse Chestnut *(Aesculus hippocastanum)*, Bramble *(Rubus fruticosus)*, Hawthorn *(Crataegus monogyna)*, Holly *(Ilex aquifolium)*, Norway Maple *(Acer platanoides)* and Oak *(Quercus sp.)*	To 15.0	<70 to 1000*	Varies				Varies	N/A	Poor-Good	Y-M	Informal group located within soft landscape and at the top of a bank on the Site boundary. Level change (down 3.0m) to S. Relatively unmanaged in form with hanging deadwood, torn branches and some standing deadwood within. Tar spot of sycamore *(Rhytisma acerinum)* present. Dense scrub and level changes (down to B603 road) preventing further inspection.	Of general amenity, screening and habitat value to location. Consider formative pruning to remove hanging deadwood and selective thinning of group to favour the development of longer-lived specimens. Monitor for signs of Ash Dieback Disease *(Hymenoscyphus fraxineus)* and Bleeding Canker of Horse Chestnut (*Pseudomonas syringae pv aesculi).*	40+	B2/3
T28	Goat Willow *(Salix caprea)*	6.0	8No. 150	4.7	4.2	4.8	4.5*	M/S from base	2.0 (S)	Fair	SM	Located within area of mown grass with vehicles parked beneath. Outgrown coppice with crossing and fused trunks with further crossing branches higher in canopy. Historic pruning wounds with no wound wood development.	Of general amenity value to location in association with adjacent trees. Monitor trunk junctions for safety.	20+	C2

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
T29	Lime *(Tilia sp.)*	15.0+	1100*	10.0	7.0*	7.5	8.0*	2.0 (S)	Av. 1.7	Poor/ Fair	M-OM	Located within G27 at the top of bank. Level change (down 3.0m) to S. Numerous main leaders and fork junctions. Ivy *(Hedera helix)* established on trunks. Torn branches, pruning wounds, decay cavities, torn stubs and missing bark present in canopy.	Of general amenity value to location. Monitor trunk junctions for safety.	20+	B2
T30	Sycamore *(Acer pseudoplatanus)*	15.0+	1400*	9.2	5.0*	7.2	9.0	1.4 (W)	5.0 (N)	Fair	M-OM	Located within G27 at the top of a bank. Level change (down 3.0m) to S. Cars parked on mown grass beneath to N. Numerous leaders with Ivy *(Hedera helix)* established. Canopy reduction wounds, minor deadwood and torn branches within. Potentially M/S from base with trunks in competition. Restricted access limits further inspection.	Of general amenity and screening value to location. Monitor trunk junctions for safety and sever Ivy at base and remove from lower 1.0m of trunk.	20+	C2
T31	Ash *(Fraxinus excelsior)*	12.0*	1100* (700* stump to N)	11.0	4.0*	6.0	6.0	3.0 (E)	Av. 4.0	Fair	M	Located within G27 at the top of a bank. Level change (down 3.0m) to S. Cars parked on mown grass beneath to N. Abscission complete. Dense Ivy *(Hedera helix)* growth on trunk. Second main trunk to S removed to leave 3.0m Ht. stump with some minor regrowth. Unbalanced form as a result. Deadwood present within canopy.	Of general amenity and screening value to location an in association with adjacent trees. Monitor for signs of Ash Dieback Disease *(Hymenoscyphus fraxineus).*	20+	C2

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
G32	2No. Ash *(Fraxinus excelsior)* and 1No. Cherry *(Prunus sp.)*	5.0-8.0	140-240	Av. 3.0				Varies	1.8 (S)	Poor – Fair	SM	Located within residential gardens on edge of Site. Pruning wounds to Cherry with no wound wood development. Second trunk from S Ash removed at base with no wound wood development. Further pruning wounds with varying degrees of wound wood development. Some deadwood within.	Of nominal amenity value to location. Monitor wounds for signs of decay and Ash for signs of Ash Dieback Disease *(Hymenoscyphus fraxineus).*	40+	C2

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
G33	Holly *(Ilex aquifolium)*, Cherry Laurel *(Prunus laurocerasus)*, Spruce sp. *(Picea sp.)*, Sycamore *(Acer pseudoplatanus)*, Lime *(Tilia sp.)*, Fern-leaved Beech *(Fagus sylvatica* 'Asplenifolia'), Yew *(Taxus baccata)*, Rhododendron *(Rhododendron sp)*, Beech *(Fagus sylvatica)*, Blue Atlas Cedar *(Cedrus atlantica var. glauca)*, Pine sp. *(Pinus sp.)*, Elder *(Sambucus nigra)*, Apple sp. *(Malus sp.)* English Elm *(Ulmus procera)* and English Oak *(Quercus robur)*	To 15.0+	<70 to 1,400*	Varies, to 10.0				Varies	0.0	Poor-Fair	Y-M	Formal group bordering access roads, pathways and formal lawns. Several M/S specimens. In mutual competition and drawn up in places with several unbalanced canopies as a result. Several crooked in form. Large torn branch scars, torn branch stubs and pruning wounds throughout with varying degrees of wound wood development. Several memorial plaques within. Understory dominated by Rhododendron and Cherry Laurel.	Of great amenity, screening, landscape, cultural, arboricultural and habitat value to location. Consider selectively thinning to favour the development of specimens of higher value.	40+	A1/2/3

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
G34	Cherry Laurel *(Prunus laurocerasus)*, Fern-leaved Beech *(Fagus sylvatica* 'Asplenifolia'), Yew *(Taxus baccata)*, Spruce sp. *(Picea sp.)*, Cypress sp. *(Cupressus sp.)*, Lime *(Tilia sp.)*, Snowberry *(Symphoricarpos sp.)*, Holly *(Ilex aquifolium)*, English Elm *(Ulmus procera)*, Norway Maple *(Acer platanoides)*, and Ash *(Fraxinus excelsior)*	To 20.0+	<70 to 900*	-				-	Min 3.5 over access road	Poor – Good	Y-EM	Large group on southern Site boundary with access road to N and E. Historic pruning wounds throughout. Some instances of limb removal. Cankers to Lime trunks. Scrubby understory and some standing deadwood within. Several specimens Ivy *(Hedera helix)* clad. In mutual competition. Tar spot of Sycamore *(Rhytisma acerinum)*. Bird boxes and squirrel dreys within.	Of general amenity, screening and habitat value to location. Monitor pruning wounds for signs of decay. Consider thinning to favour longer-lived specimens.	40+	A2/3
T35	Horse Chestnut *(Aesculus hippocastanum)*	15.0+	600	5.1	7.5	7.6	3.8	2.5 (W)	Av. 2.5	Fair	EM	Located within area of mown grass adjacent to access road. Previous secondary leader removed at 6.0m Ht. on S side with some wound wood development but also decay. Leans to S with a thin canopy as a result. Good buttress root development. In competition with G33.	Of general amenity and landscape value to location. Monitor extent of decay and for signs of Bleeding Canker of Horse Chestnut *(Pseudomonas syringae* pv *aesculi)*.	20+	B2

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
T36	Lime *(Tilia sp.)*	20.0+	850	5.5	7.3	6.3	4.8	7.0 (S)	3.0 (S)	Fair	EM	Located within area of mown grass adjacent to access road. Tree previously c.1.0m N of trunk has been felled. Canopy biased as a result of previous competition. Suckering and epicormic growth. Ivy previously removed from trunk. Canopy reduction wounds in upper crown. Good buttress root development.	Of general amenity and landscape value to location. Sever ivy and remove from lower 1.0m of trunk. Consider formative pruning to remove suckering and epicormic growth.	40+	B2
G37	Holly *(Ilex aquifolium),* Lime *(Tilia sp.),* Sycamore *(Acer pseudoplatanus),* Norway Maple *(Acer platanoides)* and Ash *(Fraxinus excelsior)*	7.0 – 20.0+	350-950	From 3.0 to 8.5				Varies	Min 0.0, min 4.0 over access road	Poor – Good	SM – OM	Located within mown grass flanking either side of access road. Good buttress root development. Cankers and several historic pruning wounds to Norway Maple. Stump to NE of Norway Maple, previous competition presumed the reason for thin canopy. Suckering and epicormic growth within. Historic pruning wounds throughout with varying degrees of wound wood development. Sycamore towards the N of group forks at 1.6m Ht. Tar spot of Sycamore *(Rhytisma acerinum)* present.	Of amenity and landscape value to location. Monitor wounds for signs of decay and Ash for signs of Ash Dieback Disease *(Hymenoscyphus fraxineus).*	40+	A2
G38	1No. Ash *(Fraxinus excelsior)* and 1No. Sycamore *(Acer pseudoplatanus)*	12.0	350 (S), 450 (N)	Av. 3.0				Av. 2.2	0.0 (W)	Fair / Good	SM	Located on edge of area of mown grass adjacent to stone wall. Historic pruning wounds to trunk, some now occluded. Torn stubs in canopies. Strangler root on Sycamore.	Of general amenity value to location in association with adjacent trees. Monitor wounds for signs of decay and Ash for signs of Ash Dieback Disease *(Hymenoscyphus fraxineus).*	40+	C2

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
T39	Lime *(Tilia sp.)*	15.0+	800 over fluted trunk	5.4	6.1	6.2	4.4	Av. 3.5	0.5 (W)	Fair	EM	Located within area of mown grass. Canopy reduced with several dogleg branches as a result. Deadwood within canopy. Suckering and epicormic growth. Historic pruning wounds with varying degrees of occlusion. Good buttress root development.	Of general amenity value to location. Monitor pruning wounds for signs of decay. Consider formative pruning to remove epicormic growth.	40+	B2
T40	Giant Sequoia *(Sequoiadendron gigantica)*	30.0+	1950	3.3	3.8	4.8	3.3	Av. 9.0	1.9 (N)	Good	M	Substantial tree located within area of mown grass. Good buttress root development and tapering bole. Several holes to trunk from bird damage (likely Woodpecker or Tree Creeper). Minor deadwood within canopy.	Of great amenity, arboricultural and landscape value to location.	40+	A1/2
T41	English Oak *(Quercus robur)*	7.0	280	5.6	4.4	5.4	4.5	Av. 2.3	0.6 (N)	Good	SM	Located within area of mown grass. Historic pruning wounds on trunk mostly occluded. Canopy overhangs Portakabin to E. Minor exposed shallow surface. Minor crossing and fused branches.	Of general amenity value to location with potential to increase with age. Monitor pruning wounds and consider raising canopy above Portakabin.	40+	B2
T42	Lime *(Tilia sp.)*	15.0 +	740	5.0	5.4	5.7	5.6	Av. 3.5	0.6 (S)	Fair	SM	Located within area of mown grass. Epicormic growth. Canopy reduced with further torn branch stubs and fractured limbs. Scrubby in form.	Of general amenity value to location in association with adjacent trees. Consider formative pruning to tidy branch stubs and remove epicormic growth.	20+	C2

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
T43	Sycamore *(Acer pseudoplatanus)*	15.0+	550*	5.0	3.8	4.6	5.0*	2.5 (W)	1.3 (W)	Fair	SM	Located within small strip of grass between stone wall and car parking area. Suckers at base. Historic pruning wounds on trunk mostly occluded with some higher on trunk showing signs of decay. Branch stubs and doglegs from pruning. Tar spot of Sycamore *(Rhytisma acerinum)* present.	Of general amenity value to location in association with adjacent trees. Monitor wounds and decay. Consider formative pruning to remove suckers.	40+	B2
G44	Ash *(Fraxinus excelsior)*, Grey Poplar *(Populus x canescens)*, Horse Chestnut *(Aesculus hippocastanum)* and Cypress *(Cupressus sp.)*	15.0	Av. 280	Av. 5.0				Varies	0.8	Fair	Y-SM	Located within strip of soft landscape between access track and boundary wall. Unmanaged with several M/S in form and with crossing and fused branches and deadwood present throughout.	Of nominal amenity value to location. Consider selectively thinning group. Monitor for signs of Ash Dieback Disease *(Hymenoscyphus fraxineus)* and Bleeding Canker of Horse Chestnut *(Pseudomonas syringae pv aesculi).*	40+	C2
T45	Horse Chestnut *(Aesculus hippocastanum)*	15.0	895	4.5	5.1	7.1	7.5	Av. 4.5	1.5 (E)	Fair	EM – M	Located on edge of area of soft landscape adjacent to walled garden. Good buttress root development but some exposed shallow surface roots on SE side from soil erosion and over-run with historic mower damage. Historic pruning wounds on trunk with varying degrees of occlusion. Some deadwood within canopy and missing bark on N side of trunk. Trunk bent in form with weeping canopy form.	Of general amenity value to location. Monitor wounds for signs of decay and tree for signs of Bleeding Canker of Horse Chestnut *(Pseudomonas syringae* pv *aesculi).*	40+	B2

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
T46	Lime *(Tilia sp.)*	15.0+	950	4.0	4.1	5.4	4.9	4.5 (N)	1.6 (E)	Fair	EM-M	Located within gravel and macadam car park / access area. Good buttress root development. Suckers at base and epicormic growth on trunk. Several cankers to trunk. Deadwood, torn branches and branch stubs present within canopy.	Of general amenity value to location in association with adjacent trees. Consider formative pruning to remove epicormic and suckering growth and stubs.	40+	B2
T47	Lime *(Tilia sp.)*	15.0+	800	5.7	5.9	5.0	4.3	4.0 (W)	Av. 1.3	Fair	EM-M	Located on edge of mown grass. Good buttress roots with historic strimmer damage to base. Cankers to trunk. Deadwood within lower canopy and some torn branch stubs. Epicormic and suckering growth.	Of general amenity value to location in association with adjacent trees. Consider formative pruning to remove epicormic and suckering growth and branch stubs.	40+	B2
T48	Common Yew *(Taxus baccata)*	14.0	700* (3No. fused stems)	4.0*	4.2	6.5	3.6	M/S from 1.7	1.2 (W)	Fair / Good	EM	Located within strip of soft landscape between macadam access road and stone wall. Good buttress root development with historic strimmer damage to base and exposed shallow surface roots from soil erosion. Overhead utilities line immediately to S of canopy. In competition with adjacent G49.	Of general amenity value to location. Monitor wounds for signs of decay.	40+	B2
G49*	Holly *(Ilex aquifolium)*, Rhododendron *(Rhododendron sp.)* and Cherry Laurel *(Prunus laurocerasus)*	To 13.0	Av. 200*	Av. 3.0				Varies	Av. 2.3	Fair	SM	Located within a strip of soft landscape. Laurel and Rhododendron growth to 3.0m Ht. restricting visual access for further assessment. (*Note – location approximated on Drawing 1 due to lack of topographical information*).	Of nominal amenity value to location as a group.	40+	C2

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
T50	Spruce sp. *(Picea sp.)*	20.0+	635	3.0	2.1	2.6	2.0	3.0 (SE)	7.0 (SE)	Fair	SM	Located within area of mown grass on edge of macadam pathway. Minor exposed shallow surface and strangler roots at base from soil erosion. Deadwood and pruned branch stubs on lower trunk.	Of general arboricultural and amenity value to location. Consider top dressing exposed roots and formative pruning to remove deadwood and branch stubs.	40+	B1/2
T51	Silver Birch *(Betula pendula)*	15.0+	420	6.0*	4.3	4.2	3.5	Forks @ 5.0	Av. 2.0	Fair	EM-M	Located within area of soft landscape. Suckers at base. Minor Ivy *(Hedera helix)* present on trunk. Several cankers on trunk and branches. Torn branch stubs also present.	Of general amenity value to location in association with adjacent trees. Remove suckers at base.	20+	B2
T52	English Oak *(Quercus robur)*	20.0	1100	10.9	7.3	10.0	7.9	Forks @ 3.0	Av. 4.0	Fair / Good	M	Located on edge of soft landscape. Good buttress root development. Epicormic growth on trunk. Forks at 3.0m with fork ears and included bark below. Canopy reduction wounds on all sides.	Of general amenity and landscape value to location. Consider formative pruning to remove epicormic growth. Monitor wounds for signs of decay and trunk junctions for safety.	40+	A2

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
G53*	Portuguese Laurel *(Prunus lusitanica)*, Cherry Laurel *(Prunus laurocerasus)*, Rhododendron *(Rhododendron sp.)*, Laburnum *(Laburnum anagyroides)*, Holly *(Ilex aquifolium)*, Yew *(Taxus baccata)*, Dogwood *(Cornus sanguinea)* and Box *(Buxus sempervirens)*	To 7.0	<70 to 300	Av. 4.0				-	-	Poor – Good	Y-SM	Area of soft landscape between access pathways. In mutual competition. Pruning wounds throughout. Several M/S in form and further instances of crossing and fused branches. (*Note – location approximated on Drawing 1 due to lack of topographical information*).	Of general amenity value to location as a group. Monitor wounds for signs of decay.	40+	C2
G54	2No. Holly *(Ilex aquifolium)*	5.0	Av. 280	Av. 3.0				Av. 2.5	Av. 2.0	Poor / Fair	SM	Located within small area of mown grass. Minor epicormic growth to N-most specimen. M/S from base and scrubby in form. Historic pruning wounds mostly occluded with a linear wound to one 50% occluded. Deadwood within.	Of nominal amenity value to location. Consider formative pruning to remove deadwood. Monitor wounds for signs of decay.	20+	C2

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
G55*	2No. Irish Yew *(Taxus baccata* 'Fastigiata*')*	3.0	-	Av. 2.0				0.0	0.0	Fair / Good	SM	Located within small area of mown grass. M/S from base and feathered in for. S specimen being overshadowed by adjacent Holly (G54). (*Note – location approximated on Drawing 1 due to lack of topographical information*).	Of nominal amenity value to location.	40+	C2
G56*	Variegated Holly *(Ilex sp.),* Holly *(Ilex aquifolium),* Box *(Buxus sempervirens)* and Goat Willow *(Salix caprea)*	6.0	-	Av. 2.5				-	-	Fair	SM	Located on edge of mown grass with bank and level change (down 2.0m) to E. Scrubby in form and in mutual competition. (*Note – location approximated on Drawing 1 due to lack of topographical information*).	Of nominal amenity value to location. Consider thinning.	40+	C2
G57	Elder *(Sambucus nigra),* Cherry Laurel *(Prunus laurocerasus),* Rhododendron *(Rhododendron sp.),* Cypress sp. *(Cupressus sp.),* Weeping Ash *(Fraxinus excelsior* 'Pendula'*),* Field Maple *(Acer campestre)* and Elm *(Ulmus sp.)* sapling	6.0-8.0	Varies	Varies				-	-	Fair	SM	Located on edge of mown grass. Unmanaged, shrubby and dense in form.	Of general amenity and screening value to location. Consider selective thinning to favour longer-lived specimens.	40+	C2

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
T58	Cypress sp. *(Cupressus sp.)*	8.0	445	Av. 3.2				Av. 2.8	Av. 1.9	Fair	SM	Located on edge of G57 adjacent to macadam pathway. In competition with G57. Good buttress root development. Deadwood present within lower canopy. Historic pruning wounds to trunk with varying degrees of wound wood development. Some torn branches and hanging deadwood present in lower canopy.	Of nominal amenity value to location in association with adjacent trees.	20+	C2
G59	Norway Maple *(Acer platanoides)* and Holly *(Ilex aquifolium)*	4.0-6.0	N/A	Av. 5.0				-	-	Fair	SM	Located within bed of soft landscaping with no direct access. Some historic pruning wounds to E holly. In competition with vegetation below. Deadwood present within Holly.	Of nominal amenity value to location. Consider formative pruning to vegetation beneath and to remove deadwood from Holly. Monitor pruning wounds for signs of decay.	40+	C2
T60	Giant Sequoia (*Sequoiadendron giganteum)*	20.0+	2,100*	4.0	4.9	3.2	2.8	5.0 (N)	Av. 1.8	Good	M-OM	Located on edge of G57. Pale fencing around base of trunk. Historic pruning stubs on lower trunk. Some exposed shallow surface roots with deflection to adjacent macadam pathway noted. Several instances of woodpecker / tree creeper damage to trunk.	Of arboricultural, amenity and landscape value to location. Monitor macadam pathway for further deflection. Consider formative pruning to remove branch stubs.	40+	A1/2
T61	Variegated Holly *(Ilex sp.)*	5.0	130	Av. 1.5				Av. 1.7	1.0 (E)	Poor/ Fair	SM	Located within area of mown grass adjacent to macadam pathway. Crooked in from with several dogleg branches and further crossing branches around forks. Several wounds to trunk with varying degrees of wound wood development.	Of nominal amenity value to location. Monitor wounds for signs of decay.	20+	C2

Ref. No	Species	Est. Height (m)	Stem Dia. (mm)	Canopy Spread (m)				DIR. First sig. branch (m)	Direction and Canopy Clearance (m)	Physiological Condition	Age	Observations and Conditions	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	Cat.
				N	S	E	W								
T62	Cherry *(Prunus sp.)*	4.0	180	3.1	3.0	3.7	2.0	1.6 (E)	0.6 (E)	Poor	SM	Located within area of mown grass adjacent to macadam pathway. Exposed shallow surface roots. Crack to trunk with missing bark and decay. Hanging deadwood. Large linear wound in canopy with some wound wood development.	Of nominal amenity value to location. Monitor wounds and exposed shallow surface roots for signs of decay.	10+	C2
G63*	2No. Monkey Puzzle *(Araucaria araucana)*	12.0	Av. 650	Av. 7.0				Av. 8.0	Av. 3.0	Fair/ Good	M	Located within G57 and beginning to compete. Deflection noted to macadam pathway to E. Some deadwood within. Restricted access limits further inspection. (*Note – location approximated on Drawing 1 due to lack of topographical information*).	Of general arboricultural and amenity value to location. Monitor deflection.	40+	B1/2

Notes

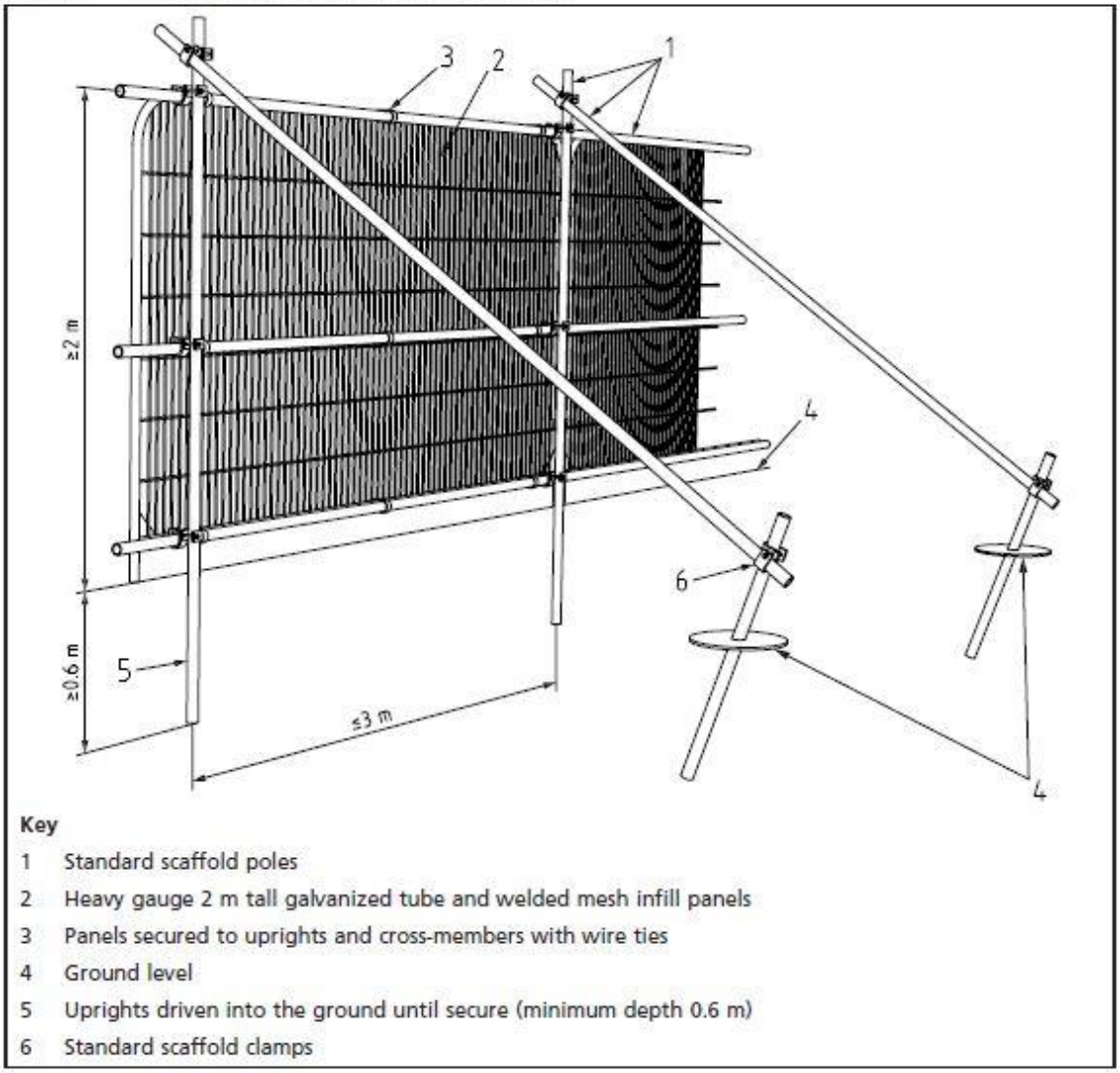
- All trees subject to full arboricultural inspection for safety, with respect of both existing and proposed site uses/users (targets).
- Any management recommendations in this report subject to protection status of trees (e.g. TPO or Conservation Area etc.) and Local Planning Authority approval.
- Any management recommendations in this report subject to presence of nesting birds or protected species (e.g. Bats)
- Any tree surgery recommendations contained within this report to be undertaken in accordance with BS3998(2010) Tree work – Recommendations (BS3998)
- Fieldwork survey information subject to seasonal/access constraints.
- N/A - Measurement not accessible.
- '*' or 'Est' - Indicates estimated position of tree (not indicated on topographical survey) or value based upon average of remaining measurements or visual estimate.

This schedule should be read in conjunction with **Drawings 1** and **2**.

C. Queen Elizabeth High School Phasing Drawing: Existing Site Analysis (ref. 122356-02 dated 10/08/15)

D. Extract from BS5837:2012 – Default specification for protective barrier

Figure 2 **Default specification for protective barrier**

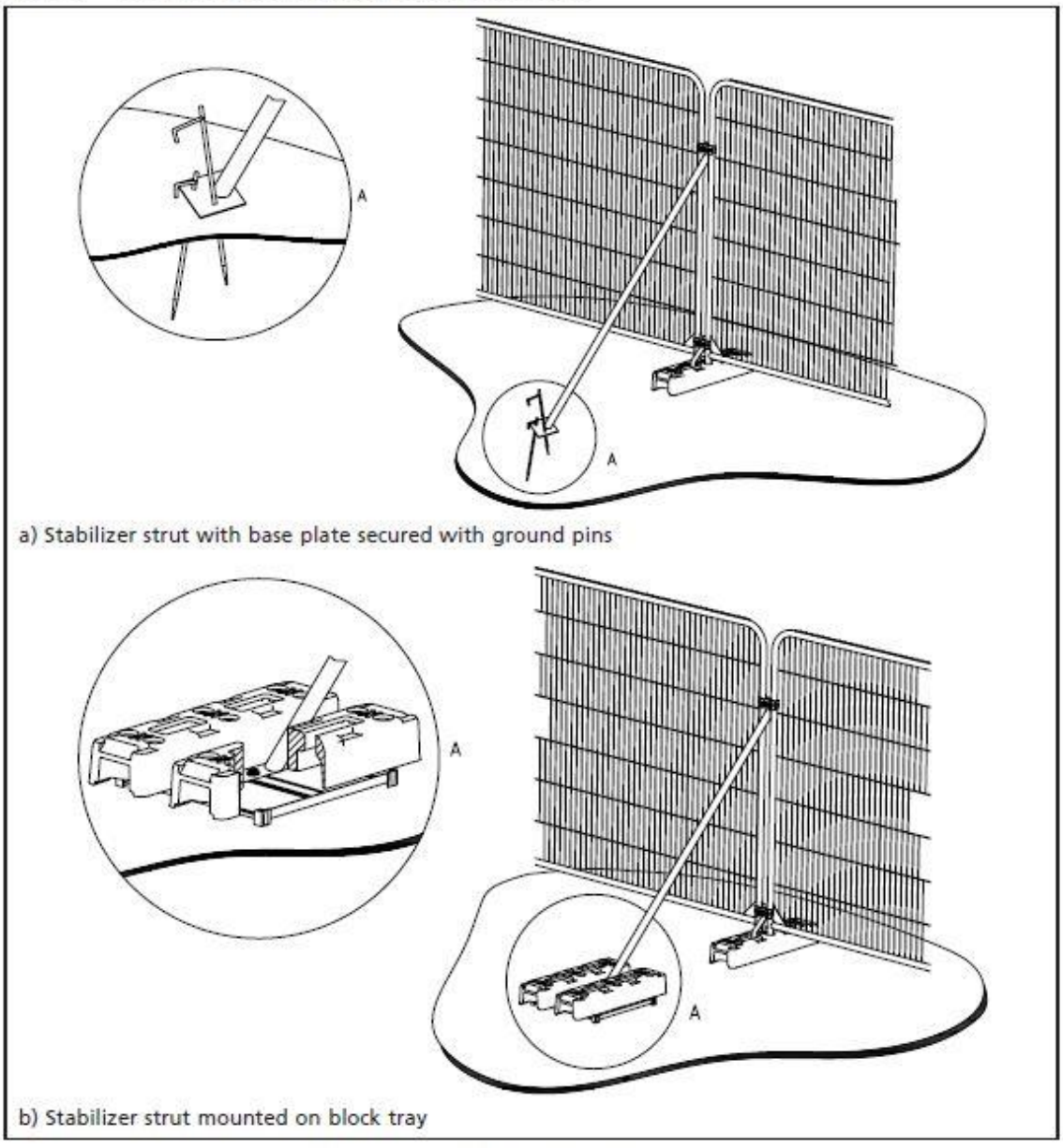


Key

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

E. Extract from BS5837:2012 – Examples of above-ground stabilizing systems

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

F. Tree Protection Signage (Example)

Waterman

UK and Ireland Office Locations