

ARBORICULTURAL IMPACT ASSESSMENT, METHOD STATEMENT AND TREE PROTECTION PLAN

Belgrove House (Primary Construction Phase) Euston Road Kings Cross London

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Kent Office

This report has been prepared by PJC Consultancy Ltd on behalf of MACE Group

Document author

Luke White FdSc Arboriculture M.Arbor.A

Luke is an arboriculturist with over nine years' experience working within the arboricultural and forestry industry with the latter seven years working within consultancy. He gained a foundation degree in arboriculture with distinction from the University of Brighton in 2012 and is a professional member of the Arboricultural Association and an associate member of the Institute of Chartered Foresters.

Checked by

Peter Davies FdSc Arboriculture M.Arbor.A

Peter has a Foundation Degree in Arboriculture from the University of Brighton and is a professional member of the Arboricultural Association. He has over ten years' experience in the arboricultural industry, originally working as a groundsman and feller, and progressing into consultancy. He is a LANTRA accredited professional tree inspector.





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Date: 27/06/23



1 INTRODUCTION

1.1 Instruction

- 1.1.1 PJC Consultancy has been instructed by MACE Group to provide a construction specific arboricultural method statement to discharge planning condition 15 of Camden Council's approved planning application reference 2022/1515/P, for the redevelopment of Belgrove House.
- 1.1.2 This report complies with the recommendations of British Standard BS5837: 2012 Trees in relation to design, demolition and construction Recommendations (the British Standard).

1.2 Relevant planning history

- 1.2.1 PJC produced a demolition specific arboricultural method statement (document reference PJC/6018/22/01) to allow partial discharge of condition 15. The demolition specific method statement was approved and partial discharge granted in July 2022, to allow the demolition of Belgrove House. No pruning was considered necessary to complete the demolition works.
- 1.2.2 To provide sufficient clearance for construction work and to provide adequate height clearance for high sided vehicles and the installation of site welfare cabins along Argyle Square (preferred construction vehicle route and installation location), trees along the route and adjacent the cabin location will require minor crown pruning. A pruning specification was produced by PJC in February 2023 (document reference PJC/6256/23) and June 2023 (document reference PJC/6353/23) detailing the required works.

1.3 Objectives of report

- 1.3.1 This report has been undertaken with the following objectives:
 - To provide a protection methodology for retained trees throughout the primary construction period, including the above ground and below ground parts of the trees as well as their rooting medium. The public realm landscaping works to the south of the construction area is not covered in this report.

1.4 Contents of report

- 1.4.1 This report includes:
 - An arboricultural method statement at section 2 and a tree protection plan at Appendix
 1.
 - An arboricultural Pruning Specification at Appendix 2 and 3.

1.5 Documents and information provided

- 1.5.1 The following documents were used to aid the preparation of this report:
 - PJC Initial Arboricultural Report ref. PJC/5494/20/01.
 - PJC Arboricultural Impact Assessment ref. PJC/5494/20/02.
 - PJC Arboricultural Method Statement (Demolition) ref. PJC/6018/22/01.
 - PJC Detailed Arboricultural Pruning Specification ref. PJC/6256/23.
 - MACE Group's Construction Management Plan Version 03 dated February 2023 (walkway within Argyle Square gardens omitted).
 - DGP Logistic s Location Plan reference 43589_Rev0.

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1.6 Limitations of report

- 1.6.1 The following arboricultural impact assessment and method statement have been prepared for the proposal stated in section 1.1 and using the plans and information listed in section 1.5. The report should not be relied upon if the stated proposal or proposed design changes unless the author confirms the changes do not have a bearing on the arboricultural impacts or recommended mitigation measures.
- 1.6.2 The public realm landscaping work to the south of the site is not covered by this arboricultural method statement. An additional method statement and tree protection plan will be produced once the detailed specification for this work has been created and a principle contractor appointed. The principle contractor for the public realm landscaping work will be responsible for commission this updated method statement.

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2 ARBORICULTURAL METHOD STATEMENT

2.1 General requirements

- 2.1.1 The arboricultural method statement and tree protection plan shall remain on site for the duration of primary construction works. This method statement must be made available to all site operatives that are working within the crown spread and root protection area of retained trees. All operatives that are working in proximity to retained trees shall be briefed about tree related factors as part of their site induction.
- 2.1.2 Any variation from the methodology described in this method statement shall be discussed with the supervising arboriculturist and agreed with the local authority arboricultural officer.

2.2 Phasing of works

2.2.1 To ensure trees are protected throughout the development, the proposed development shall occur in the following order:

Table 1: Phasing of works

Works Order	Operation	Notes
1	Initial tree works.	The tree works contractor shall undertake the access facilitation pruning specified in the arboricultural pruning specifications. Completion of these works will be required to enable high sided vehicular access and installation of welfare cabins.
2	Installation of site hoarding.	Site hoarding shall be installed in the locations shown on the tree protection plan and construction management plan and to the specification described in this method statement.
3	Pre- commencement meeting.	The project arboriculturist shall attend a site meeting with the site manager prior to commencement of ground works that may affect retained trees. The local authority arboricultural officer shall be notified so they may also attend. The above pre-start arboricultural works shall be signed off by the project arboriculturist during the meeting. The meeting shall occur before any plant activity, ground works or construction activities begin.
4	Construction phase.	The site hoarding shall be maintained, areas of hard surfacing within root protection areas retained and maintained, and the construction exclusion zones observed throughout the primary construction phase.

2.3 Initial tree works

- 2.3.1 See PJC's Arboricultural Pruning Specification Letter ref. PJC/6256/23 and PJC/6353/23 for more details. Included at Appendix 2 and 3.
- 2.3.1 All works are to be carried out in accordance with BS3998: 2010 Tree works Recommendations.
- 2.3.2 Any additional requirements for pruning beyond that stipulated within the pruning specification that cannot be predicted at this stage in the design process (e.g. for contractor compound or movement of large or specialist plant machinery) shall be discussed at the pre-commencement meeting with the project arboriculturist and agreed with the local authority arboricultural officer before works are undertaken. No works may be carried out on protected trees without prior permission from the local authority.

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- 2.3.3 Access facilitation pruning shall be carried out as the first stage of development. Any requirements for access facilitation pruning which have not been anticipated on the date of this report shall be discussed at the pre-commencement meeting with the project arboriculturist and be communicated to the local authority arboricultural officer.
- 2.3.4 Trees should be checked for protected species before works are undertaken. It is against the law to disturb bats or their roosts under the Conservation of Habitat and Species Regulations. Nesting birds are protected by the Wildlife and Countryside Act. If protected species are discovered, Natural England should be contacted for advice.
- 2.3.5 The tree works contractors should carry out all tree works to BS3998: 2010 Tree works recommendations as modified by research that is more recent. They should also carry relevant, adequate and up to date insurance.
- 2.3.6 It is suggested that an Arboricultural Association approved contractor carry out all tree works. Approved contractors are expected to work to industry best standards. The Arboricultural Association website (www.trees.org.uk) contains contact details and information on engaging a suitable contractor.

2.4 Tree protection barriers

- 2.4.1 The root protection areas of retained trees must be left free from disturbance, and protected from direct and indirect impacts during the proposed construction works. Protection shall comprise of timber site hoarding and existing retained hard standing.
- 2.4.2 The site hoarding erected for demolition work shall be moved to the location shown on the tree protection plan in Appendix 1 and construction management plan. The hoarding line shall be signed off by the project arboriculturist before any plant activity, ground works or construction activities commence at the site. The site hoarding shall be maintained in situ throughout the duration of construction when all other construction activities in the vicinity have been completed, and excess construction materials and plant machinery have been removed from site. Any damage that occurs to the site hoarding during the construction period must be rectified immediately, prior to other construction activities recommencing in the vicinity.
- 2.4.3 During all works in control of MACE, the existing hard standing to the south of the site (forming Argyle Square) shall be retained and maintained throughout the duration of the work to provide vehicular access across the root protection area of retained trees. No works within the surface are permitted within the existing hard surface unless first agreed with the project arboriculturist and Local Authority Arboricultural Officer.
- 2.4.4 The specification for site hoarding shall be 2.5m high timber hoarding supported by timber posts fixed to concrete blocks. This specification avoids the requirement for excavation.
- 2.4.5 Signs shall be affixed to the inside of the hoarding as shown in Appendix 3 to explain its purpose. The signs shall be affixed at a reasonable size and frequency to ensure they are easily visible to operatives at the site.
- 2.4.6 The areas protected by site hoarding, including the existing hard surface and Argyle Square Gardens (highlighted yellow and orange on the tree protection plan) shall be referred to as the construction exclusion zones. The following restrictions shall apply within the construction exclusion zones:
 - No vehicular access shall be permitted unless within the existing had surface or on adequate temporary ground protection measures that have been agreed with the project arboriculturist.
 - Regular pedestrian access shall be restricted unless within the existing hard surface or on suitable ground protection measures agreed with the project arboriculturist.

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- No storage of construction materials shall occur.
- No storage of building spoil or construction debris (including short-term temporary stockpiling) shall occur.
- No harmful chemicals shall be stored or handled.
- No fires shall be permitted.
- No mechanical excavation including regrading of levels shall occur.
- There shall be no change in ground level unless undertaken.
- No construction activities shall be undertaken unless otherwise specified in this method statement.

2.5 Storage and handling of harmful chemicals

- 2.5.1 Provision must be taken to prevent the storage and handling of harmful chemicals within the root protection areas of retained trees. Harmful chemicals include fuels, oils, bitumen, builder's sand (which has a high salt content) and cement. Provision shall also be made to prevent the storage and handling of harmful chemicals in areas proposed for further planting if the existing soil is intended to be retained.
- 2.5.2 Cement mixing shall always occur outside the construction exclusion zones. If cement mixing is to occur close to the construction exclusion zones, or there is the potential for cement washings to leech into a root protection area, adequate, bunded ground protection measures must be used. This could comprise impermeable plastic sheeting under wooden boards (to prevent tears) surrounded by a raised lip.
- 2.5.3 All other chemicals that are harmful to trees must be stowed in suitable containers and stored away from the construction exclusion zones unless adequate, bunded ground protection measures are implemented to prevent spillages leeching into root protection areas.

2.6 Contractor facilities

2.6.1 Contractor facilities shall be provided inside the primary construction area, well away from retained trees. More details have been provided within the Construction Management Plan.

2.7 Services

2.7.1 Statutory undertakers are responsible for diversion and installation of new utilities to suit the development. The relevant statutory undertaker provider shall undertake their works by use of sympathetic methodologies that are required to minimise damage to tree roots (as described in NJUG4 'Guidelines for the planning, installation and maintenance of utilities in proximity to trees' and BS5837: 2012), and with guidance from their respective arboriculturist.

2.8 Pre-commencement meeting

- 2.8.1 A pre-commencement meeting shall be held between the contractors and the project arboriculturist. The local authority arboricultural officer shall be given reasonable notice of the pre-commencement meeting so they may also attend. The purpose of the pre-commencement meeting shall be:
 - 1. To clarify the tree protection methodology with the site manager.
 - 2. To discuss the chronology and phasing of the project with the site manager.
 - 3. To sign off that the pre-commencement tree works have been completed as specified in the arboricultural pruning specification, and to discuss any requirements for any further pruning which had not been anticipated prior to the meeting.

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- 4. To sign off that the site hoarding has been installed in the correct locations and to the agreed specification.
- 5. To agree with the local authority arboricultural officer the type and timings of arboricultural monitoring necessary.
- 2.8.2 Following this meeting, if the local authority arboricultural officer has not been able to attend, an email outlining the actions discussed will be sent to the tree officer for approval. If necessary, a revised tree protection plan and method statement will be issued for approval.

2.9 Arboricultural supervision

2.9.1 No arboricultural supervision is envisaged.

2.10 Arboricultural monitoring

- 2.10.1 The site manager shall provide a monthly update to the project arboriculturist including photographic evidence that the tree protection barriers are intact and that the construction exclusion zones have been observed.
- 2.10.2 In addition to the above, a system and programme of onsite monitoring by the appointed arboricultural consultant shall be agreed with the Local Authority Arboricultural Officer. The form and frequency of site monitoring shall be agreed at the pre-commencement meeting.

2.11 Process if an unforeseen issue relating to trees arises

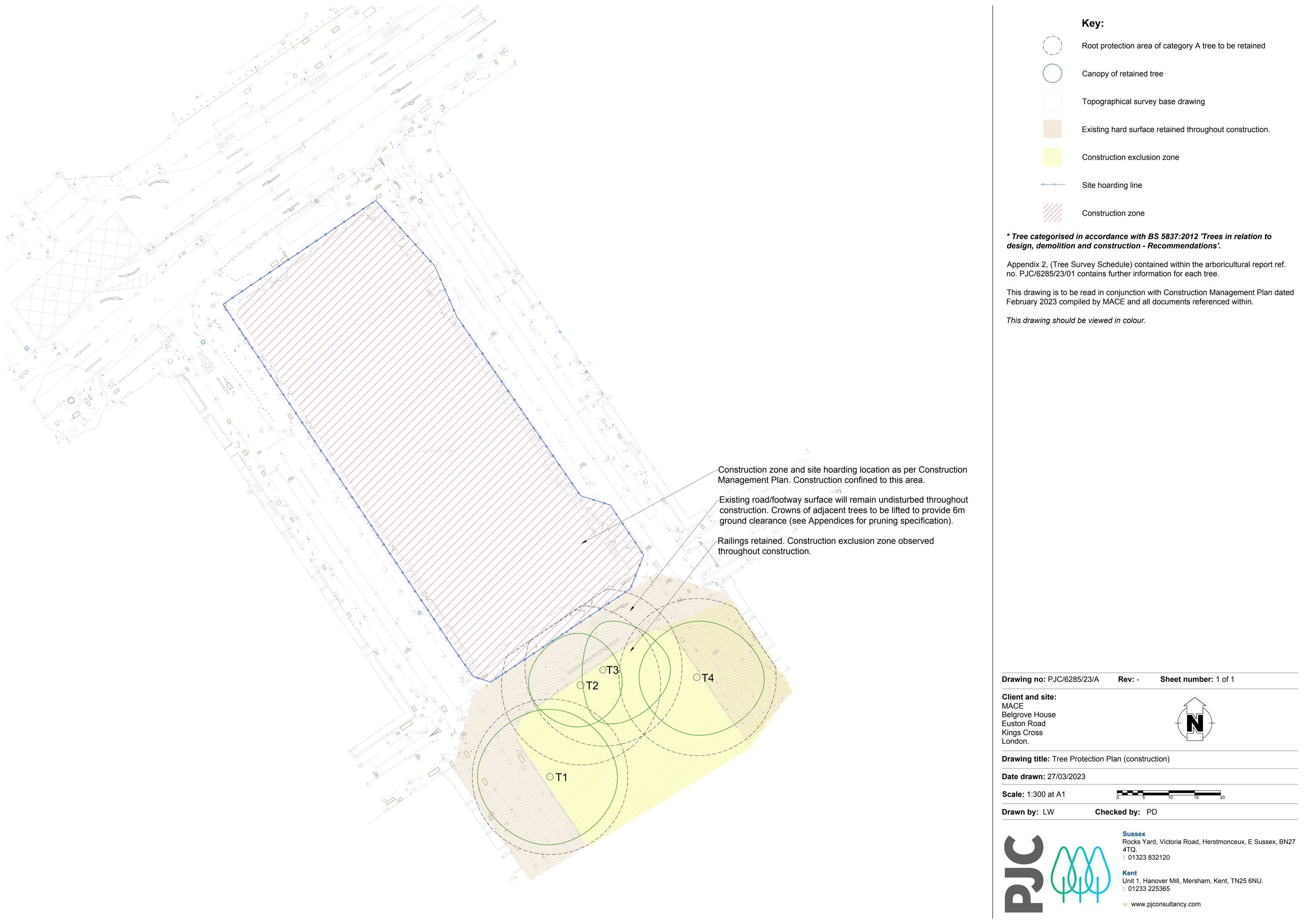
- 2.11.1 If significant root growth is disturbed during construction activities that are not within the scope of this report, the work shall cease until the project arboriculturist has been consulted. Roots greater than 25mm in diameter or dense/matted fibrous roots shall be considered significant root growth. It should be remembered that whilst root protection areas are part of industry best practice, tree root growth is influenced by a number of factors and may not conform to expected ideals.
- 2.11.2 If at any time during the construction process, damage is inadvertently caused to a tree, the project arboriculturist shall be notified to assess the likely implications and to prescribe potential remedial measures to be implemented. Damage can be in the form of chemical or fuel spillage, mechanical damage to either the above ground parts of the tree or the roots, fire or any other unforeseen circumstance.
- 2.11.3 The supervising arboriculturist shall be appointed by the contractor. It will be necessary for the arboriculturist to report to the local planning authority on the outcome of the site visits as well as any unforeseen tree related issues.

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Appendix 1: Tree Protection Plan

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Appendix 2: Arboricultural Pruning Specification

PJC Ref: PJC/6285/23/01 Rev –



FAO Thomas Butt
Mace Ltd
Sent via email only: (Thomas.Butt@macegroup.com)

22nd February 2023 PJC Ref: 6256/23

Belgrove House Re-development - Detailed Arboricultural Pruning Specification.

The re-development of Belgrove House was permitted in November 2021 under Camden Council planning application reference 2020/3881/P. PJC's Arboricultural Impact Assessment reference 5494/20/02 formed part of this submission and detailed facilitation pruning requirements to trees immediately adjacent to the site (two London plane). Condition 15 of this permission pertains to the protection of trees, specifically.....

"Prior to any commencement of any works, an updated Arboricultural Method Statement with revised tree pruning specification with annotated photos, prepared following on-site consultation with the Council's Tree officers, demonstrating how on-site trees to be retained shall be protected during construction work, shall be submitted to and approved by the local planning authority in writing."

PJC's Demolition specific Arboricultural Method Statement reference 6018/22/01 was submitted to Camden Council under reference 2022/1919/P in April 2022 and partial discharge of condition 15 was granted to allow demolition works to commence. The pruning of trees was not necessary in order to carry out demolition of existing building and demolition was completed in early 2023. The purpose of this letter is to specify the details of pruning works that are required to trees adjacent to the site in order to facilitate construction works. In addition, facilitation pruning to trees along the preferred high-sided vehicular access route (Argyle Square) will also be detailed.

The trees are situated within the Bloomsbury Conservation Area therefore no works to trees should be carried out unless either the works are approved under a planning permission (works to trees T1 and T2 have been granted) or a six week notice to the Council has been provided. Failure to adhere to the Conservation Area legislation could lead to prosecution and if convicted a fine and criminal record. The crown of a tree and its roots are protected. The person carrying out the works, the person instructing the works and the Directors of that company are potentially liable.

The trees are also within Camden Council's ownership, therefore permission for the tree works must be sought and fully permitted prior to commencement.

The tree works contractors should carry out all tree works to BS3998: 2010 Tree works – recommendations as modified by research that is more recent. They should also carry relevant, adequate and up to date insurance. It is suggested that an Arboricultural Association approved contractor carry out all tree works. Approved contractors are expected to work to industry best standards. The Arboricultural Association website (www.trees.org.uk) contains contact details and information on engaging a suitable contractor.



Image 1: Tree location plan. Approx. site extents highlighted in red and high sided vehicle route highlighted in blue. Tree numbers represent approx. tree location.

London plane T1

T1 is located directly south of the development site, and was included in the approved Arboricultural Impact Assessment reference PJC/5494/20/02 (referred to as T2). The works prescribed within this assessment included the lateral reduction of the northern crown by 2m and the western crown by 4m. Following receipt of updated construction logistics information, the crown of T1 will require lateral reduction to its northern crown aspect by 2m and lifting of crown tips to provide 6m ground clearance. See photograph 1 in Appendices for visual aid and approximate cut lines.

London plane T2

T2 is located directly south of the development site, and was included in the approved Arboricultural Impact Assessment reference PJC/5494/20/02 (referred to as T3). The works prescribed within this assessment included the lateral reduction of the northern crown by 3m. These work are still considered necessary to avoid impacts with piling operations.

London plane T3

T3 is located to the west of Argyle Square and along the proposed route for high sided vehicles. The lowest significant branch is located at 8.5m (historically reduced) with the lowest crown tips over the road at 5m. To allow unhindered vehicular movement below the crown of T3, crown tips require lifting by 1m to provide 6m ground clearance. See photograph 2 in Appendices for visual aid and approximate cut line.

London plane T4

T4 is located to the west of Argyle Square and along the proposed route for high sided vehicles. The lowest significant branch is located at 7m with the lowest crown tips over the road at 4m. To allow unhindered vehicular movement below the crown of T3, crown tips require lifting by 2m to provide 6m ground clearance. See photograph 3 in Appendices for visual aid and approximate cut line.

London plane T5, T6 and T7

London plane T5, T6 and T7 are located to the west of Argyle Square and along the proposed route for high sided vehicles. These trees have high crown structures but low hanging crown tips. To allow unhindered vehicular along Argyle Square, crown tips of these three trees require lifting by approx. 1m to provide 6m ground clearance. See photograph 4 in Appendices for visual aid.

London plane T8

London plane T8 and T9 are located to the west of Argyle Square and along the proposed route for high sided vehicles. T8 has a limb (approx. diameter 35mm) extending over road at 5m in height. Crown tips are present at approx. 4m over the road. It is recommended that the lowest limb be removed back to the branch bark collar. Removal will provide sufficient clearance along the road by high sided vehicles without impact the trees overall form and/or amenity value. See photograph 5 in Appendices for visual aid and approximate cut line.

London plane T9

London plane T9 is located to the west of Argyle Square and along the proposed route for high sided vehicles. T9 has a limb (approx. diameter 35mm) extending over road at 4m in height. Crown tips are present at approx. 3.5m over the road. It is recommended that the lowest limb be removed back to the branch bark collar. Removal will provide sufficient clearance along the road by high sided vehicles without impact the trees overall form and/or amenity value. See photograph 5 in Appendices for visual aid and approximate cut line.

The above facilitation pruning works only require the removal of small diameter branches (less than 35mm diameter) and crown tips, and works can be completed without impacting upon the trees physiological condition and/or amenity value. The pruning works fall well within acceptable parameters stipulated within British Standards BS3998: 2010 Tree works – recommendations.

If you have any queries regarding the above, please don't hesitate to contact me.

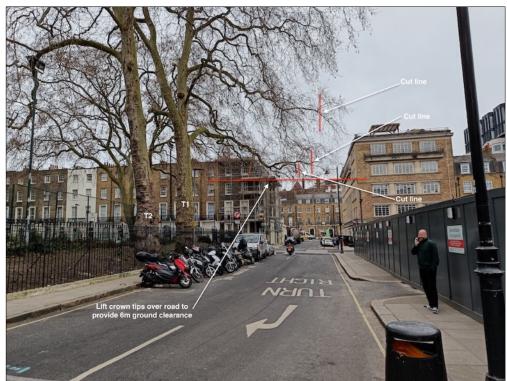
Yours sincerely

Luke White

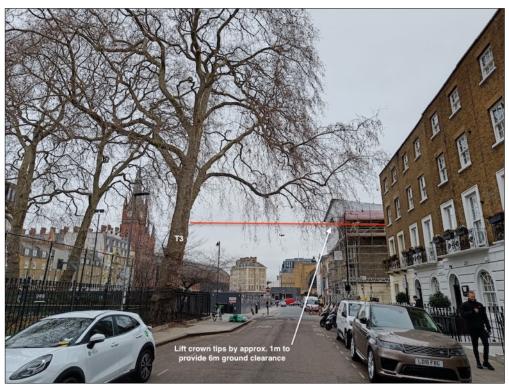
FdSc Arboriculture M.Arbor.A

Arboriculturist

Photograph Appendices



Photograph 1. T1 with 'cut lines' highlighted to indicate a lateral crown reduction of 2m to the trees northern crown aspect and crown tips to be lifted to provide 6m clearance over road.



Photograph 2. T3 with 'cut line' highlighted to indicate the crown tips to be lifted to provide 6m clearance over road.



Photograph 3. T4 with 'cut line' highlighted to indicate the crown tips to be lifted to provide 6m clearance over road.



Photograph 4. London plane T5, T6 and T7 located adjacent to Argyle Square. Crowns tips require lifting by approx. 1m to provide 6m clearance over road.



Photograph 5. London plane T8 & T9 located adjacent to Argyle Square. Lowest limbs overhanging road require removal to provide 6m clearance over road.



Appendix 3: Arboricultural Pruning Specification

PJC Ref: PJC/6285/23/01 Rev -



FAO Thomas Butt Mace Ltd Sent via email only: (Thomas.Butt@macegroup.com)

> 10th October 2023 PJC Ref: 6353/23

Belgrove House Re-development (installation of welfare cabins) - Detailed Arboricultural Pruning Specification.

The re-development of Belgrove House was permitted in November 2021 under Camden Council planning application reference 2020/3881/P. To facilitate construction works, the installation of temporary welfare facilities is required along Argyle Square. The welfare facilities shall consist of prefabricated welfare cabins. The cabins shall be lifted into position by loader crane. The position of the welfare cabins has been provided on DGP Logistics Location Plan reference 43589_REV0.

To facilitate installation of the welfare cabins, the overhanging crowns of trees to the west of Argyle Square and within Argyle Square Gardens, will need lifting. This is to provide unhindered clearance between the crowns and the cabins whilst they are being lifted into position and to minimise conflict with the crown throughout the duration of installation.

The trees are situated within the Bloomsbury Conservation Area therefore no works to trees should be carried out unless either the works are approved under a six week notice to the Council has been provided. Failure to adhere to the Conservation Area legislation could lead to prosecution and if convicted a fine and criminal record. The crown of a tree and its roots are protected. The person carrying out the works, the person instructing the works and the Directors of that company are potentially liable.

The trees are also within Camden Council's ownership, therefore permission for the tree works must be sought and fully permitted prior to commencement.

The tree works contractors should carry out all tree works to BS3998: 2010 Tree works – recommendations as modified by research that is more recent. They should also carry relevant, adequate and up to date insurance. It is suggested that an Arboricultural Association approved contractor carry out all tree works. Approved contractors are expected to work to industry best standards. The Arboricultural Association website (www.trees.org.uk) contains contact details and information on engaging a suitable contractor.

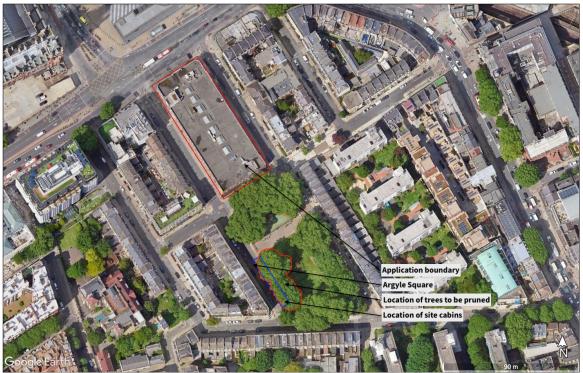


Image 1: Tree location plan. Approx. cabin location highlighted in blue and the location of trees to be pruned highlighted in red.

Trees adjacent to the welfare cabin location have development high primary crown scaffolds with pendulous tertiary growth(crown tips) that overhang the road. The lowest significant branches over the road are located at 10m height with the lowest crown tips at 5m height. To install the cabins, especially lifting into place, 11m clearance will be required over the middle of Argyle Square. This height lessens to 8m along the eastern edge of Argyle Road. To achieve sufficient clearance, the crowns of all trees highlighted red in Image 1 will require lifting by a maximum of 6m, to achieve a total 11m ground clearance over the road above the position of the cabins. Pruning shall occur to tertiary growth only with no branch/limb over 35mm being pruned. The pruning works shall not impact upon the trees primary crown scaffold. Where possible and only when branch deviation is minor, the tertiary growth of crowns shall be carefully tied back or manipulated around the temporary structure and/or its access steps. This method will minimise the need to prune.

The above facilitation pruning works only require the removal of small diameter branches (less than 35mm diameter) and crown tips, and works can be completed without impacting upon the trees physiological condition and/or amenity value. The pruning works fall well within acceptable parameters stipulated within British Standards BS3998: 2010 Tree works – recommendations.

If you have any queries regarding the above, please don't hesitate to contact me.

Yours sincerely

Luke White

FdSc Arboriculture M.Arbor.A

Photograph Appendices



Photograph 1. Cabin location on Argyle Square viewed from south looking north.



Photograph 2. Cabin location on Argyle Square viewed from north looking south.



Appendix 4: Example Tree Protection Sign







CONTACT DETAILS

Sussex Office:

Rocks Yard

Victoria Road

Herstmonceux

Hailsham

East Sussex

BN274TQ

Tel: 01323 832120

Kent Office:

Unit 1

Hanover Mill

Mersham

Nr Ashford

Kent

TN25 6NU

Tel: 01233 225365

Author: Luke White

Date: 27th June 2023

E-mail: luke@pjcconsultancy.com