Arboricultural Impact Assessment

Belgrove House
Belgrove Street
London
WC1H 8AA

10th August 2020

PJC ref: 5494/20/02 Rev –

This report has been prepared by

PJC Consultancy Ltd

on behalf of

Access Self Storage

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1 EXECUTIVE SUMMARY

1.1 This report should be read in conjunction with arboricultural survey ref. PJC/5494/20/01 and preliminary arboricultural method statement ref. PJC/5494/20/03.

1.2 **Site location:** Belgrove House, on the south side of Euston Road, lies in the Kings Cross/St Pancras Conservation Area. It occupies the entire urban block defined by Euston Road to the north, St Chad's Street and Argyle Square to the south, Belgrove Street to the west and Crestfield Street to the east. It is an unremarkable 3 storey high brick faced building with a flat roof and a basement. The building is in use as a storage facility (and has been for many years), and there are three low quality retail units at the northern end facing Euston Road. The location of the site within its environs is shown in figure 1.

Figure 1: Location of Site and Environs (Map data: © 2020 Google)

1.3 **Proposal:** Redevelopment of Belgrove House as a part 5 part 10 storey building with an innovative double skin facade for use as office and research and laboratory floorspace for the life sciences sector incorporating public access at ground floor level, café and retail floorspace an auditorium and a new step free entrance to Kings Cross LUL station in place of the two tube boxes on Euston Road together with a terrace at sixth floor level for use by tenants, public realm enhancements to Belgrove Street, Crestfield Street and St Chad's Street, cycle storage and facilities, refuse storage and other ancillary and associated works.

1.4 **Tree removals:** The site itself does not contain any arboricultural features. Four mature London plane are located within close proximity the site's southern boundary. These four mature trees (located within the adjacent Argyle Square Gardens) are to be retained and have therefore been incorporated into the site's re-development.

1.5 **Access facilitation pruning:** London plane T2 and T3 will require access facilitation pruning to enable the proposed development. The intensity of pruning required should not

adversely impact upon the trees physiological condition or amenity value provided pruning works adhere to the specification stipulated within this report.

1.6 **Works within root protection areas:** Demolition of the existing building and construction of the new building shall occur within the footprint of the existing building only. Therefore retained trees will not be directly impacted by significant construction works required to facilitate the site's re-development.

1.7 To enhance the site's value within the public realm, a robust hard and soft landscaping scheme has been proposed. Replacement hard landscaping and the installation of planting pits will occur within the root protection area of London plane T2 and T3. In addition, replacement hard surfacing shall occur within the root protection area of T1 and T4. To minimise impacting upon the root network of these retained trees, replacement hard landscaping will need to occur on top of the existing hard surface sub-base. In addition, existing drains and service runs within the root protection area of retain trees must be utilised and enhanced where required to avoid the requirement for linear excavation.

2 INTRODUCTION

2.1 **Instruction:** PJC Consultancy has been instructed by Access Self Storage to provide an arboricultural impact assessment in accordance with BS5837: 2012 '*Trees in relation to design, demolition and construction – Recommendations*' for the proposed development at Belgrove House, Belgrove Street, London.

2.2 **Objectives of report:** This report has been undertaken with the following objectives:

- To identify the tree removals and pruning works that will be required as a result of the proposed development and to assess the impact of the tree works.
  To provide recommendations on mitigation measures to reduce the impact of tree removals from the development site.
- To assess the potential impact the proposed construction works will have on retained trees and provide recommendations for mitigation measures to reduce the impact on the trees.
- To assess the post development relationship between trees and the proposed development.

2.3 **Scope of this report:** This report is concerned with all significant trees and arboricultural features located within the site boundary. Additionally, trees located around the curtilage of the site have also been assessed when they are considered likely to have the potential to impact on the development (in relation to root and crown protection or foundation design).

2.4 **Contents of report:** This report includes the following:

- A schedule of trees to be retained/removed.
- A schedule of access facilitation pruning required for the development.
- An assessment of the impact construction works will have on retained trees and mitigation measures to be implemented.
- An assessment of post development pressures on trees.
- Recommendations for post development arboricultural management.
- Tree Constraints Plan.
- Tree Retention Plan.
- Tree Survey Schedule including management recommendations related directly to the proposed development.

2.5 **Documents and information provided:** The following documents were used to aid the preparation of this report:

- 667.02.01 – Ground Floor Plan *(Bradley-Hole Schoenaich, 2020)*
- 667.02.02 – Levels 1-3 *(Bradley-Hole Schoenaich, 2020)*
- 667.02.03 – Level 4 *(Bradley-Hole Schoenaich, 2020)*
- 667.02.04 – Level 5 *(Bradley-Hole Schoenaich, 2020)*
- 667.02.05 – Level 6-9 *(Bradley-Hole Schoenaich, 2020)*
- 667.02.06 – Level 10-11 *(Bradley-Hole Schoenaich, 2020)*
- 667.02.07 – Tree Planting Plan *(Bradley-Hole Schoenaich, 2020)*
- 667.02.08 – North Elevation *(Bradley-Hole Schoenaich, 2020)*
- 667.02.09 – South Elevation *(Bradley-Hole Schoenaich, 2020)*

- 667.02.10 – East Elevation *(Bradley-Hole Schoenaich, 2020)*
- 667.02.11 – West Elevation *(Bradley-Hole Schoenaich, 2020)*
- 667.02.12 – Green Façade *(Bradley-Hole Schoenaich, 2020)*
- 2020.07.30 Rev 04 – Belgrove House CMP *(Real PM Ltd, 2020)*

2.6 **Limitations of report:** The following arboricultural impact assessment has been prepared for the proposal stated in paragraph 1.3 and using the plans and information listed in paragraph 2.5. 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.

3 ARBORICULTURAL IMPACT ASSESSSMENT

3.1 **Tree removals:** The site itself does not contain any arboricultural features. Four mature London plane are located within close proximity the site's southern boundary. These four mature trees (located within the adjacent Argyle Square Gardens) are to be retained and have therefore been incorporated into the site's re-development.

3.2 **Mitigation planting:** The site offers ample opportunity for additional tree planting to be completed during the landscaping phase of development. The detailed landscape proposals indicate a total of twenty new trees to be planted within the footways surrounding the site, including three extra heavy standard Tilia cordata 'Greenspire' to be planted within the Euston Road footway. The footways surrounding the existing building are currently void of arboricultural features, therefore this planting scheme is considered a significant enhancement of the public realm, providing much needed green infrastructure along Euston Road, Belgrove Street and Crestfield Street.

3.3 **Access facilitation pruning:** Trees expected to require access facilitation pruning to enable the proposed development (based on the information currently available) comprise T2 and T3. London plane are known to respond well to crown reduction and light pruning operations, therefore both trees are unlikely to suffer adverse physiological impacts as a result of the required pruning. However, T2 and T3 both have spreading crown structures and it is important that pruning is kept to an absolute minimum so they retain their crown shape and therefore, amenity value. Pruning must not exceed that stipulated within this report. A summary of access facilitation pruning is shown below.

Table 2: Summary of access facilitation pruning

Tree number	Species	Works required	Reason for works
T2	London plane	Laterally reduce northern crown aspect by 2m and western crown aspect by 4m.	To provide adequate clearance with the existing/proposed building to allow the erection of scaffolding and hoarding.
T3	London plane	Laterally reduce northern crown aspect by 3m.	To provide adequate clearance with the existing/proposed building to allow the erection of scaffolding and hoarding.

3.4 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 also recommended that all tree works are carried out by an Arboricultural Association approved contractor. Approved contractors are expected to work to industry best standards, and the Arboricultural Association website (www.trees.org.uk) contains contact details and information on engaging a suitable contractor.

3.5 **Ingress, egress and site management:** The site is located within a densely populated urban area and limited space is available for a contractors compound, welfare facilities, material drop off/pick up ect. This is further constrained due to the proximity of mature trees adjacent to the site's southern elevation. Construction Management Plan ref. 2020.07.30

Rev 4 provides further detail in regards to the re-developments access and egress requirements. This document has clearly taken the size and position of retained trees into consideration.

3.6 An unloading area has been shown in the site's southern extents along Argyle Square, within the root protection area and under the crown of London plane T2 and T3. To minimise pruning requirements and to ensure retained trees are not adversely impacted by this unloading area, vehicular traffic utilising this unloading zone must be restricted to a maximum of 4m in height. To minimise impacts to the root network of retained trees, the existing tarmac surface within the root protection area of T2 and T3 shall be retained and maintained throughout demolition and primary construction phases. In addition, this unloading zone is not considered suitable for crane access, due to overhanging crowns. Cranes must pick up from the Belgrove Street or Crestfield Street unloading zones only.

3.7 **Building footings in proximity to trees:** The proposed building will be located within the footprint of the existing building and outside the root protection areas of retained trees. Demolition of the existing building and construction of the new building will therefore not adversely impact upon retained trees.

3.8 **Hard landscaping within root protection areas:** To enhance the site's value within the public realm, a robust hard and soft landscaping scheme shall be implemented. The most significant change will be within the site's southern extents. Replacement hard landscaping and the installation of planting pits will occur along Argyle Square, within the root protection area of London plane T2 and T3. In addition, replacement hard surfacing shall occur within the root protection area of T1 and T4 to enhance the adjacent footway. This phase of the site's redevelopment shall be completed as the final phase, as the existing Argyle Square hard surface shall be used as an unloading zone for construction traffic.

3.9 The root spread of trees located within an urban environment are difficult to predict as they will naturally follow the path of least resistance and avoid significant rooting constraints. Trees at the site are surrounded by built infrastructure, however they have been given a typical circular rooting area (restricted to the north due to the existing basement level) as this is deemed the most pragmatic in this circumstance. It is likely that root growth within the existing Argyle Street has been limited by the existing built infrastructure and topographical changes. However, based on an above ground visual inspection, these constraints are not significant enough to have completely restricted root growth to within the works area. Therefore root growth within the works area should be assumed. To minimise impacting upon the root network of these retained trees, replacement hard landscaping will need to occur on top of the existing hard surface sub-base using a construction methodology that avoids the requirement for excavation. In addition, existing drains and service runs within the root protection area of retain trees must be utilised and enhanced where necessary to avoid the requirement for any additional linear excavations.

3.10 Tree planting is proposed within the root protection area of T2 and T3. To integrate the tree plantings into the hard landscaping proposals, below ground, engineered tree pits shall be utilised. These pits will require excavation within the root protection area of retained trees and therefore have potential to result in the severance of roots. Tree pit excavations shall be completed as the initial phase of landscaping. Excavations will need to be completed by hand or by using air displacement equipment (air lance) and under the strict supervision of the project arboriculturist. If significant root growth is revealed (roots above 25mm in

diameter), the pit location shall be moved to an area that is void of significant root growth. If root growth appears prolific within the works area, the pits will need to be omitted from the design and trees planted in a new location outside of root protection areas.

3.11 **Services:** Details of the routing of services for the proposed development are not currently available. All underground services should be located outside the root protection areas of retained trees and above ground services should be located outside the anticipated mature crown spreads. Sympathetic methodology to enable the installation of services within root protection areas (in certain instances) is available, however there will always be a potential arboricultural impact and arboricultural advice must be sought regarding the suitability of these methods before they are relied upon. If it is achievable, root protection areas should always be completely avoided.

3.12 Once details of the routing of new services become available, prior to commencement, these shall be reviewed by the project arboriculturist. The arboriculturist shall then confirm either that no works will be carried out within root protection areas or provide details of the methodology required to ensure the works are carried out in accordance with NJUG4 '*Guidelines for the planning, installation and maintenance of utilities in proximity to trees*' and BS5837: 2012.

3.13 **Vulnerability of trees during construction period:** Construction activities can cause compaction or contamination of the rooting medium, which can have a significant detrimental impact on root function and the health of trees. Protection of the rooting medium is essential for the viability or retained trees. Additionally construction activities can result in damage to the above ground parts of trees that are not sufficiently segregated from the works area. It is therefore important to implement a tree protection strategy during the construction period. This strategy is described in the arboricultural method statement and on the accompanying tree protection plan. The purpose of the tree protection strategy is as follows:

- To protect the above ground parts of the trees from physical damage such as contact with plant machinery by segregating them from the works area.
- To prevent compaction of the soil within root protection areas resulting from activities such as the movement of plant machinery or the storage of construction materials.
- To prevent contamination of the rooting medium resulting from the storage and handling of harmful chemicals such cement/cement washings, builders sand or fuel within root protection areas.
- To prevent physical damage to trees whilst existing hard standing are removed from within root protection areas.
- To specify sympathetic construction methodology for specific activities that will occur within root protection areas.

3.14 **Post development tree pressures and management:** The proposed development has been assessed to determine the likely impact of tree shade, and also the likely future pressure to prune or remove additional trees. The proposed structure will be of commercial use and therefore tree shade is not considered a material constraint. However, ongoing maintenance requirements and overbearing presence should be considered. The proposed structure is not expected to be shaded to the extent that it inhibits future occupants reasonable use or enjoyment of the property, thereby leading to pressure to fell or severely

prune the trees in a manner the local planning authority could not reasonably resist. To maintain sufficient clearance between the proposed structure and the crowns of T2 and T3, cyclical crown pruning will be required. Cyclical pruning back to reduction points, as specified within this document, will be required at a frequency of once every five years. This low intensity of pruning is not considered excessive and will not result in significant ongoing maintenance costs.

4 CONCLUSIONS

4.1 All arboricultural features will be retained and incorporated into the site's re-development. The detailed landscape proposals indicate a total of twenty new trees to be planted within the footways surrounding the site, including three extra heavy standard *Tilia cordata 'Greenspire'* to be planted within the Euston Road footway. The footways surrounding the existing building are currently void of arboricultural features, therefore this planting scheme is considered a significant enhancement of the public realm, providing much needed green infrastructure along Euston Road, Belgrove Street and Crestfield Street.

4.2 Trees expected to require access facilitation pruning to enable the proposed development (based on the information currently available) comprise T2 and T3. London plane are known to respond well to crown reduction and light pruning operations, therefore both trees are unlikely to suffer adverse physiological impacts as a result of the required pruning. However, T2 and T3 both have spreading crown structures and it is important that pruning is kept to an absolute minimum so they retain their crown shape and therefore, amenity value

4.3 The proposed site layout involves new hard landscaping and tree planting within the root protection areas of retained trees. Due to the condition and high amenity value of these trees, sympathetic construction methodologies shall be utilised to minimise the impact of construction works, therefore allowing their retention and continued contribution to the site.

4.4 All proposed buildings will be located outside the root protection areas of retained trees. Provided the exclusion zones and methodologies described in the arboricultural method statement and Tree Protection Plan are followed, trees proposed for retention should not be adversely affected by the construction works.

4.5 Based on the above assessment, trees recommended for retention in this report can be protected during the construction period and successfully integrated into the site post development.

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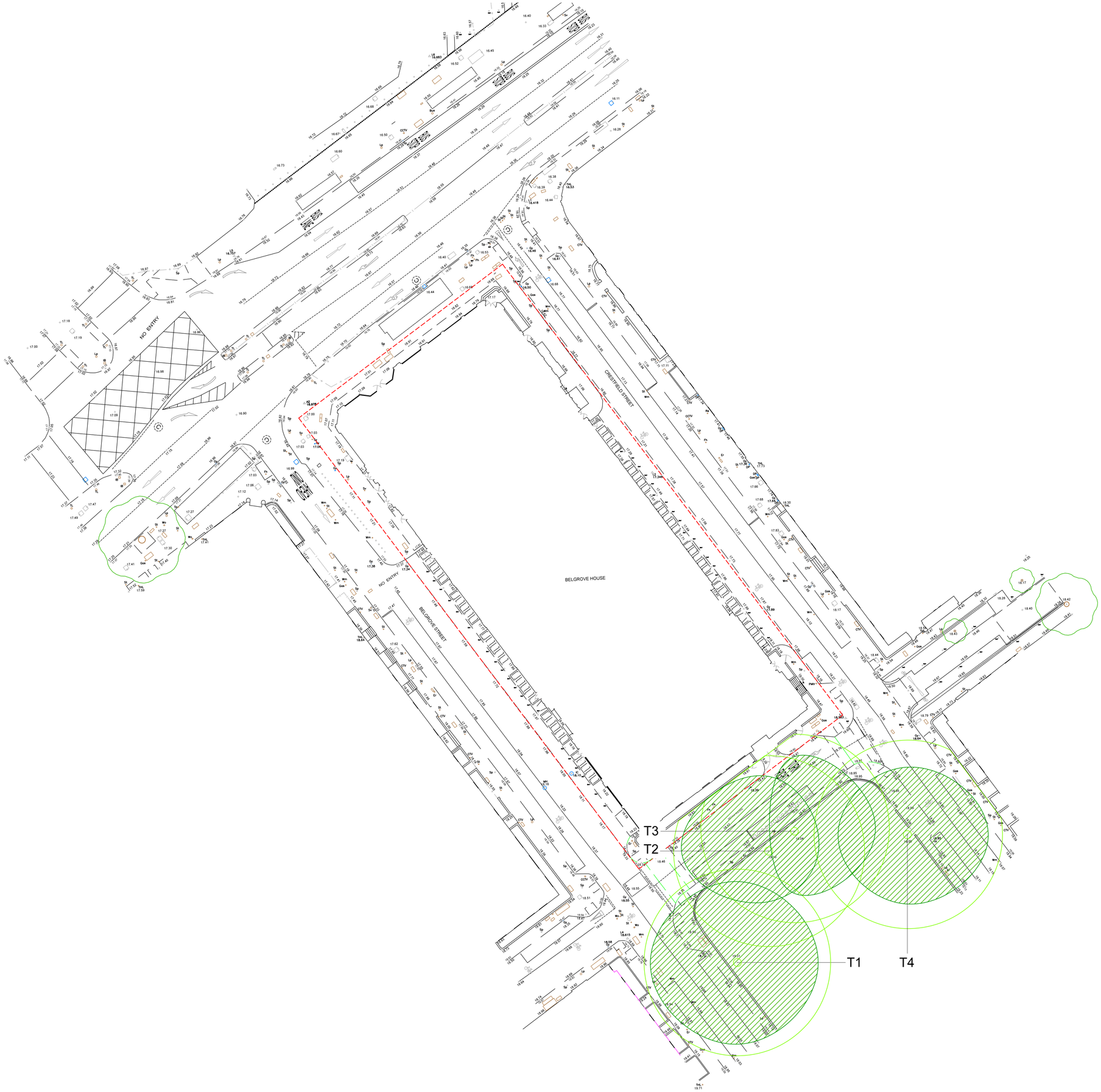
APPENDIX 1

Tree Constraints Plan



Key:

- Root protection area of category A Tree*
- Tree canopy
- Survey area boundary
- Topographical survey

**** Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.***

Appendix 2, (Tree Survey Schedule) contained within the arboricultural report ref. no. PJC/5494/20/01 contains further information for each tree.

This drawing should be viewed in colour.

Drawing no: PJC/5494/20/A **Rev:** - **Sheet number:** 1 of 1

Client and site:
Access Self Storage
Belgrove House
Belgrove Street
London.
WC1H 8AA.

Drawing title: Tree Constraints Plan

Date drawn: 13/03/2020

Scale: 1:300 at A1

Drawn by: LW **Checked by:** PD

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APPENDIX 2

Tree Retention Plan

Key:

- Root protection area of category A tree to be retained
- Canopy of retained tree
- Section of tree canopy to be removed
- Topographical survey base drawing

**** Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.***

Appendix 2, (Tree Survey Schedule) contained within the arboricultural report ref. no. PJC/5494/20/02 contains further information for each tree.

This drawing is to be read in conjunction with landscaping ground floor plan drawing ref. 667.20.01 *(Bradley-Hole Schoenaich, 2020)*

This drawing should be viewed in colour.

Drawing no: PJC/5494/20/B **Rev: -** **Sheet number:** 1 of 1

Client and site:
Access Self Storage
Belgrove House
Belgrove Street
London
WC1H 8AA

Drawing title: Tree Retention Plan

Date drawn: 10/08/2020

Scale: 1:300 at A1

Drawn by: LW **Checked by:** PD

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APPENDIX 3

Tree Survey Schedule

Survey Date: Friday 6th March 2020

Tree Survey Schedule (AIA)

Site: Belgrove House, Belgrove Street, London. WC1H 8AA.

Surveyor: Luke White *FdSc Arboriculture M.Arbor.A*

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Management Requirements	Category grading	Root Protection Area (m^2)	Root Protection Radius (m)
T1	London plane *(Platanus x acerifolia)*	17	1270	N: 13 E: 13 S: 13 W: 14	Crown: 6 average Branch: 3 north	Mature	Good	Good	No pruning works considered necessary. Retain and protect throughout development.	A1+2	707.8	15.0 capped
T2	London plane *(Platanus x acerifolia)*	19	1330	N: 12 E: 8 S: 8 W: 14	Crown: 4 north Branch: 7 west	Mature	Good	Good	Laterally reduce the crowns northern aspect by 2m and western aspect by 4m. Retain and protect throughout development.	A1+2	707.8	15.0 capped
T3	London plane *(Platanus x acerifolia)*	19	1230	N: 12 E: 13 S: 10 W: 4	Crown: 5 north Branch: 8 south	Mature	Good	Good	Laterally reduce the crowns northern aspect by 3m. Retain and protect throughout development.	A1+2	685.4	14.8
T4	London plane *(Platanus x acerifolia)*	17	1300	N: 11 E: 13 S: 11 W: 11	Crown: 5 east Branch: 10 south	Mature	Good	Good	No pruning works considered necessary. Retain and protect throughout development.	A1+2	707.8	15.0 capped