NOTES

General

This illustrative plan is intended to inform the location of protective barriers, other relevant physical protection and highlight precautionary areas for retained trees prior to site enablement and excavation. This plan should be incorporated into the overarching Method statement for the works, subsequent drawings and contractors method statements and issued for use on site, to ensure that all parties are fully aware of the areas in which access and works may and may not take place. The Contractor will be required to prepare detailed Risk Assessments and Method Statements which take into account relevant health and safety requirements, including those associated with the Construction Design and Management (CDM) Regulations, specific phasing and other Client requirements to ensure the works are undertaken in a safe, economic, sustainable, legal and appropriate manner. This document may therefore require review and therefore presents only the conceptual understanding of how the works will be undertaken and is not a substitute for the detailed Risk Assessment and Method Statements required to be prepared by the Contractor as part of the future works.

Excavation and Installation has potential to have an adverse impact on trees located within within the site (T9 - T10).
Any discrepancies must be reported to *tree:*fabrik immediately.

Site Boundary

Indicative site boundary

Tree Constraints

U Category tree
Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years

B Category tree
Trees of moderate quality and value

A Category tree
Trees of high quality and value

C Category tree
Trees of low quality and value

Crown spread

Preliminary root protection area
Illustrated as a radius centered on the trunk

Statutory Designations (trees)

The site lies within the Bloomsbury Conservation Area. As such, six weeks prior notice must be given to Camden Council in writing prior to carrying out tree works. All tree works must be carried out by a competent person experienced in arboriculture and in accordance with British Standards 3998 (2010) Recommendations for tree work.Attention is drawn to the responsibilities under the Wildlife & Countryside Act (1981) as amended by the Countryside and Rights of Way Act 2000.

Arboricultural Method Statement

The primary purpose of this plan is to aid the preservation of retained trees through setting out the appropriate working practices, demolition techniques and tree protection measures that are to be adopted when excavation works are undertaken in the proximity of trees. The methodology of this Tree Protection Strategy follows a logical sequence of events. Variations to the sequence could significantly reduce the efficiency of the tree protection measures.

This plan should be incorporated into subsequent drawings and method statements used for design purposes or issued for use on site, to ensure that all parties are fully aware of the areas in which access and works may and may not take place. A summary of tree protection will be provided to all personnel through the Site Induction. This summarises the key precautionary measures and responsibilities of all site personnel to ensure an awareness of trees during site works and that they are successfully protected throughout the demolition and site enablement works. Contractor - It is the responsibility of the Contractor to ensure that the Tree Protection Plan is implemented on site, maintained during the process and understood by all site personnel and contractors prior to commencement of works.

Site Set-Up

Responsibilities of key personnel & site induction - Equally as important as the physical measures of tree protection are the links of communication. Pre-commencement discussions will be carried out between the Project Arboriculturist and members of the Technical Team to ensure that tree issues are considered within the complexities of detailed construction and site management.
A summary of Tree Protection will be provided to all personnel through the Site Induction. This summarises the key precautionary measures and responsibilities of all site personnel to ensure an awareness of trees during site works and that they are successfully protected throughout the excavation process.

Site Manager - It is the responsibility of the Site Manager to ensure that details of this Arboricultural Method Statement is implemented on site, maintained during the complete process and understood by all site personnel and contractors prior to commencement of works. The Site Manager will notify the appointed Project Arboriculturist of any programmed or unscheduled works within the RPA or Construction Exclusion Zone. It is the responsibility of the Site Manager to inform the appointed Project Arboriculturist at least 72hrs before commencement of each operation within the arboricultural scope of works outlined within Arboricultural Monitoring & Recording (below) and of any unscheduled works or variations to enable action by the Project Arboriculturist.

Site Personnel - Information on the required protection measures will be provided at the **site induction** to personnel. All damage to protective barriers or accidental damage to trees must be reported to the Site Manager immediately. Works occurring within the vicinity will cease immediately until adequate tree protection measures are rectified.

Project Arboriculturist - It is the responsibility of the Project Arboriculturist to liaise with the Client and Council representative to ensure appropriate tree protection and precautionary measures are designed and implemented prior to commencement of works. Once the site is active, the appointed Project Arboriculturist will monitor compliance with the arboricultural conditions through regular site visits and provide supervision and technical support on tree issues arising during the development as agreed with the client.

Unscheduled works - The Site Manager will notify the appointed Project Arboriculturist of any unscheduled works within the RPA or construction exclusion zone. The extent of works will be discussed and a method statement and provision for tree protection implemented. All unscheduled works must be agreed by the appointed Project Arboriculturist and if appropriate the Local Authority Representative consulted prior to commencement of the works.

Breaches of tree protection & unforeseen events - All damage to protective barriers or accidental damage to trees must be reported to the Site Manager immediately. Works occurring within the vicinity will cease immediately until adequate tree protection measures are rectified. A record of the damage will be made by the Site Manager and, if appropriate in consultation with the appointed Project Arboriculturist, remediation measures carried out. In the event of spillage the area is to be secured with sandbags on the line of the tree protection area and measures taken to drain/soak any spillage away from the protected area.

Storage and delivery of materials - During site enablement and installation of tree protection fencing within the site, all delivery vehicles will unload in the designated area and materials carefully stored outside the tree protection barriers.

Pre-commencement meeting - A pre-commencement meeting shall be held on site prior to commencement of enabling or excavation works . This shall be attended by the Client's Representative, Excavation Contractor, Installation Contractor and Project Arboriculturist. The Local Authority Tree Officer will be notified and invited to attend. The methods of tree protection outlined within this statement and revisions shall be fully discussed at the meeting, so that all aspects of their implementation and sequencing are made clear to all parties. Any clarifications or modifications to this statement shall be recorded and circulated to all parties in writing.

In brief, the work stages for the site enablement and demolition phase will be as follows;

Stage 1 Repositioning of tree protection Barriers (if required).
Stage 2 Construction of footings and foundations within RPA of retained trees (not required).
Stage 3 Removal of temporary ground protection along access.
Stage 4 Removal of hard surfacing in preparation of replacement of hard surfacing.
Stage 5 Replacement of removed hard surfacing.
Stage 6 Installation of cellular confinement system at access passing point.
Stage 7 On completion, Site Manager to review tree protection.

Tree Roots - The majority of tree roots are typically concentrated within the top 600mm of soil. Repeat tracking by vehicles, excavation or cement (including washings and crush) over soft ground near trees is likely to cause root damage. This may have an adverse impact on the trees health and stability. Any tree roots exposed during operations should be treated at once. Exposed roots smaller than 25mm diameter may be pruned back, preferably to a side branch, using proprietary cutting tools. In the event that roots are required to be pruned, sharp cutting tools are to be used to ensure the minimum damage is caused. Clean cuts can result in the redevelopment of fine roots. Poor untidy cuts can, however, result in root die back and decay. No roots greater than diameters of 25mm are to be pruned without prior agreement with the Project Arboriculturist. Exposed roots will be wrapped in dry, clean Hessian sacking to prevent desiccation and to protect from rapid temperature changes Following completion of works within the immediate vicinity all exposed roots will be covered with good quality topsoil before backfilling. In the event that large quantities of structural roots are found, a re-evaluation of the proposed works and impact is to be made by the Project Arboriculturist and a record made.

Tree Protection Barriers - A scheme for the protection of trees shall be implemented to avoid damage or loss of retained trees. All barriers are to be erected prior to commencement of any works on site, including site enablement and excavation, or the delivery of machinery, materials, plant or equipment to the site or any adjacent land thereto. Where sequential installation is required, barriers will be erected prior to commencement of operations as specified. Where appropriate the protection barriers may be aligned with the site hoarding. Barriers are to be retained throughout the appropriate phase of development process and are to be fit for purpose. The area between the tree and the protection barriers forms the Construction Exclusion Zone. The construction exclusion zone is to remain sacrosanct with storage of materials, machinery or equipment prohibited. No excavation or changes in land levels are to occur within this area unless agreed in writing by the Local Planning Authority. All Weather tree protection notices are to be fixed to the outside of all tree protection barriers. See Example - Tree Protection Signage.
Any damage to protective barriers or accidental damage to trees must be reported to the Site Manager immediately. Works occurring within the vicinity will cease immediately until adequate tree protection measures are rectified. All personnel using the site including site managers, agents, supervisors, operatives and other relevant personnel are to be informed of the role of the tree protective fences and its importance.

Tree Protection Barriers Type 2 (temporary). Barriers to be installed prior to any works commencing and dismantled only immediately prior to reistatement of excavate soil and re-laid hard surfacing. Barriers should consist of weldmesh panels on rubber or concrete feet and secured with two anti-tamper couplers installed so that they can only be removed from inside the fence. The panels should be supported on the inner side by with ground pins unless similar fencing is agreed with the Local Planning Authority.

- **No Dig Cellular Confinement system -** Where areas of new hard surfacing are required within the RPA of retained trees they will be constructed using a suitable 'No-Dig' Construction method. In order to minimise the requirement of excavation of material within the RPA and enable the construction of stable sub-bases for use with areas of new hard surfacing, sub-bases should be designed by the project engineer to utilise one of the following appropriate options:

1. A two-dimensional cellular confinement system (suitable for pedestrian surfaces only)
2. A three-dimensional cellular confinement system:

The excavation needed for the placement of kerbs, edgings and their associated foundations and haunching can damage tree roots. Within the RPA, this should be avoided either by the use of alternative methods of edge support, or by not using supports at all.
NOTE: For example, where kerbing is required for light structures, such as footpaths, above-ground peg and board edging might be acceptable. Where areas of hard surface require edge support, the use of sleepers (pinned in place where required), gabions or other non-invasive ground contact structures, including the use of proprietary products, can provide appropriate solutions.

Installation
- Site Preparation
  When constructing an area of new hard standing, it should be constructed working forward from the surface as it is constructed (known as "rolling out").

  The ground should not be skimmed to establish the new hard surface at the former ground level. Loose organic matter and/or turf should be removed carefully using hand tools. The new surface should then be established above the soil.
  A layer of sharp sand to a depth of approximately 30mm should be laid over the entire area and the delivery vehicle should not back onto the dug-off area. This will enable the roots to expand with minimum impact on the surface above. It will also reduce damage to roots caused by sharp aggregate materials.
- Construction
  The road or drive can be divided into three basic layers; the geotextile; the sub-base, comprising a 2 or 3-dimensional cellular confinement system; and the finished surface.

  In order to protect the construction from contamination of the sub-base it will be necessary to lay down a geotextile. This should be laid directly upon the sharp sand and should have the following properties:

  Strength; to resist puncture by tree roots and granular sub-base material.

  Porosity; to allow adequate passage of water and oxygen across the geotextile. This should not be assumed but should be confirmed with the manufacturer.

  Durability; once installed the geotextile cannot easily be replaced and therefore needs to maintain these properties in the long-term.

  A sub-base system needs to be adopted which obtains maximum strength, load spread and porosity with minimum depth. In order to do this the construction should incorporate an aggregate sub-base with the selected cellular confinement system.

  A 'no-fines' 20-40mm aggregate infill material is required in order to maintain porosity. Limestone aggregate should be avoided, as this is likely to leach into the soil below and alter the pH value, which is critical to many species of trees. Particle size must not exceed 50mm.

  Prior to the selected surface material being installed, a second layer of geotextile should be installed.

  The ideal road surface would be hard wearing and durable, it should have long-term permeability to both air and water, as well as maintaining high friction i.e. it should be non-slippery.

Hard surface removal - The removal of the existing hard surfacing within the RPA of retained trees has the potential to cause damage to the structure of soils and to tree roots. All hard surfacing requiring removal within the RPA of retained trees will be broken up with a hand held pneumatic drill or a hydraulic breaker mounted on a mini digger located outside the RPA, unless operating on suitable ground protection, or on the existing surface if it is suitably load bearing, such as the existing access surface. Debris should then be removed by hand or the mini digger may be used to pull the debris away from the trees rolling back onto the surfacing yet to be removed. No soil or hard core may be removed from beneath the surfacing and topsoil or sharp sand must immediately be used to cover the soil surface to prevent tree roots from drying out. The anticipated soft landscaping can then be applied on top of the sub base.

Re-instatement Of Hard Surfacing To Soft Ground - Prior to commencement the area of soft landscaping will be marked out and hard surfacing outside of the identified areas will be temporarily retained to provide ground protection and minimise root disturbance during development. For removal of hard surfacing, see Removal of Existing Hard Surfacing below. Immediately following removal of hard surfacing and/or remediation, the identified area will be back-filled with a good quality topsoil as specified by the landscape architect.

Approximate position of site compound

Arboricultural Monitoring & Recording

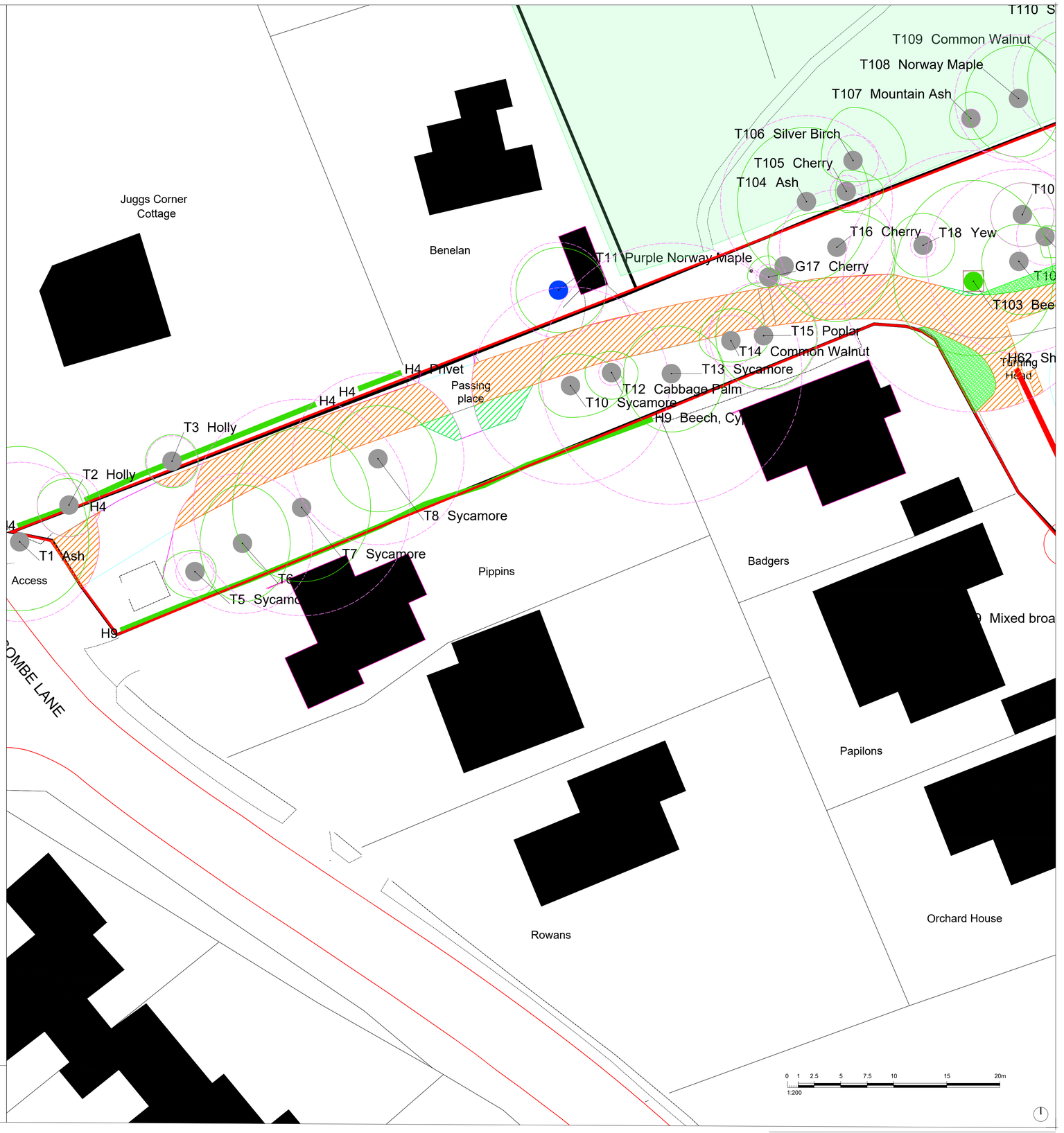
All works within the Root Protection Area (RPA) and close to the crown extents of retained trees will be carried out under an Arboricultural Watching Brief by the Project Arboriculturist.

It is the responsibility of the Client to appoint a Project Arboriculturist and agree the level of monitoring and recording prior to commencement. The frequency of site visits will be determined by the scope of works and complexities of development prior to commencement of key work stages. As a minimum, a site visit will be made at the key work stages identified and within 1 month of commencement. Following each site visit, the appointed Project Arboriculturist will circulate a report to the Site Manager and LPA Tree Officer within 5 working days. The reports shall be retained to form an auditable log for inspection by the LPA at such time as is requested. The key work stages and associated scope of works for Arboricultural Monitoring forms Table 1 below.

It is the responsibility of the demolition contractor to inform the Client's Representative of works within the RPA atleast 72hrs prior to commencement.

TABLE 1 - ARBORICULTURAL MONITORING AND RECORDING

Work Stage	Scope	Site Inspection	Site Monitoring
Tree Protection Barriers	*Prior to site enablement - inspect tree protection identifying any outstanding works or action required. On completion of any outstanding actions sign off on completion. Report breaches to Site Manager for action.*	YES Visit TBC	–
Construction Phase	*During Construction phase* - inspect tree protection identifying any outstanding works or action required. On completion of any outstanding actions sign off on completion. Report breaches to Site Manager for action.	YES Visit spot checks bi monthly	–
Hard Surface Removal	During hard surface removal provide a watching brief following methodologies stated in AMS followed by annotated report to LPA and client		YES Visit W/C 03/03/2025
Installation of cellular confinement system at passing point	During installation provide a watching brief following methodologies stated in AMS followed by annotated report to LPA and client		YES Visit W/C 03/03/2025
Tree Protection Barriers	*Following dismantling of scaffold - inspect tree protection identifying any outstanding works. On completion of any outstanding actions sign off on completion. Report breaches to Site Manager for action.*	No	YES Visit upon completion–



P01	31/08/23	Initial Issue	RD	RD
Revision	Date	Reason	Drawn	Checked

External References:
- 20050 - SK101J (Site Plan) 19042023
- D2908-FAB-00-XX-M3-L-0001
- D3303-FAB-00-XX-M2-G-7001 Levels
- D3303-FAB-00-XX-M2-G-7004 Drainage
- XREF1

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draft

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