ASTILL TREECARE LTD
ARBORICULTURAL CONSULTANCY

Tree Survey, Arboricultural Impact Assessment & Arboricultural Method Statement

for a proposed

Accessibility Hub adjacent to the Visitors Centre, Stourhead Gardens, Stourton, Wiltshire, BA12 6SH

Prepared by:

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1.0 INTRODUCTION

1.1 I have been instructed by the National Trust to survey trees and prepare a Tree Survey, Arboricultural Impact Assessment and Method Statement for the proposed construction of an accessibility hub east of the Visitor's Centre at Stourhead Gardens. Discussions have been held with the National Trust and the architects, H-B Designs in the design process and revisions made to ensure that it is constructed without any harm of significance to the local treescape. The data has been gathered in accordance with the principles of *BS.5837:2012 (Trees in relation to design, demolition and construction - Recommendations).*

1.2 **Documents Provided:** In preparation of this report, I refer to the following plan:

- Proposed Site Plan - H-B Design Ref: 276NTSH_HB_00_ZZ_DR_A_0002

2.0 STATUTORY PROTECTION

2.1 **Conservation Area:** The site is within the Stourton Conservation Area. The removal or pruning of trees (branches and roots) within a Conservation Area may only be undertaken to implement full planning permission or subject to a six-week written notification to the Local Planning Authority.

2.2 Whilst the site is outside the Grade 1 Park and Garden, it is within the Cranborne Chase and West Wiltshire AONB.

2.3 **Protection of Wildlife:** Trees and shrubs may provide habitat for wildlife such nesting birds among other flora and fauna which are protected by law. (*Wildlife and Countryside Act 1981 as amended by the Countryside and Rights of Way Act 2000 and The Conservation of Habitats and Species Regulations 2010).* Whilst proposed tree works for this proposal are minimal, site managers and contractors must take steps to ensure that any tree work to be carried out will not harm or disturb any protected species and accord with the requirements of the legislation.

2.4 **Planning Conditions:** In granting planning permission for this site, the Local Authority may include conditions relating to tree protection and landscaping among other matters. Planning conditions may include compliance with the Arboricultural Method Statement within this report.

3.0 TREE SURVEY

3.1 Survey method: The tree survey was carried out on 2nd July 2023. The information gathered and the tree categorization meets the recommendations outlined in section 4.4 and 4.5 of *BS.5837:2012.* The survey is of a preliminary nature only and undertaken from the ground. No climbing inspection, detailed soil analysis or excavations were undertaken.

3.2 Survey findings: The tree survey schedule and key can be found in Appendix 1. The Tree Survey and Constraints Plan showing the location, reference numbers, crown spread, Root Protection Areas (RPA), and retention category (colour coded) of trees which could be potentially affected by the proposals can be found in Appendix 3.

3.3 Existing landscape / treescape: The proposed accessibility hub is c. 18 metres east from the north-east corner of the visitor's centre. A semi-mature to early-mature Oak (T1), with a low, broad crown is the feature tree in the lawn between the visitor's centre and the exit drive from the car park. North of the Oak is an informal belt of Dogwood shrubs (S7) which include 2 early-mature Field Maples (T2 & T3) affording a verdant backdrop to the proposal. A poor-quality, suppressed Dogwood (T4) of negligible merit grows adjacent to the Field Maple T3. To the east of the proposed accessibility hub are 2 young Hornbeams (T5 & T6) with good potential.

3.4 Preliminary Soil Assessment: A desk-top study of UKSO and Cranfield University datasets generally describe soils in this area as a '*deep,* freely-*draining, slightly acidic, sandy loam over a parent material of sandstone'.*

4.0 ARBORICULTURAL IMPACT ASSESSMENT

4.1 **Overview:** New development can have significant impact on trees and the benefits they provide. The Arboricultural Impact Assessment identifies potential impacts that the proposed development may have on the trees within the site. The significance of impact is stated and an outline of how harm can be prevented or reduced to acceptable levels. Tree protection methods that are required for the site are stated in the preliminary Arboricultural Method Statement in chapter 5.0.

4.2 **Potential arboricultural impacts** of development near trees are as follows.

- Removal of trees to facilitate development.
- Pruning of trees to facilitate development.
- Damage to the roots and soil of trees during and after construction. *(Including: severance from excavating footings; lowering and raising of soil levels; installation of utilities, construction of new surfacing; soil compaction from vehicles, builders, increased footfall, plant machinery and storage of materials; soil contamination from fuel, cement and chemicals; fire damage).*

4.3 **Removal of trees/shrubs to facilitate development:** One low quality Dogwood tree (T4), is proposed for removal. Whilst not essential to facilitate the construction of the accessibility hub, it is a weak, suppressed tree, barely visible and of negligible merit. Its removal will improve the crown development of the adjacent Field Maple (T3). The footprint of the proposed accessibility hub encroaches into the informal belt of Dogwood shrubs. A small section of this shrub mass (S7 - as shown in red on the Tree Protection Plan) is to be grubbed out to facilitate construction but will have negligible impact following construction of the hub.

4.4 **Pruning of trees to facilitate development:** Proposed pruning of retained trees are detailed in the tree survey schedule under columns 11 & 12. It includes:

- Light crown lifting of T1 (secondary and tertiary branches only) over the proposed new asphalt wearing surface.
- Light selective reduction of lateral branches on T3 to reduce load on a weak branch and provide clearance from the proposed hub.
- Light crown lifting of T5 to enable erection of protective barriers.

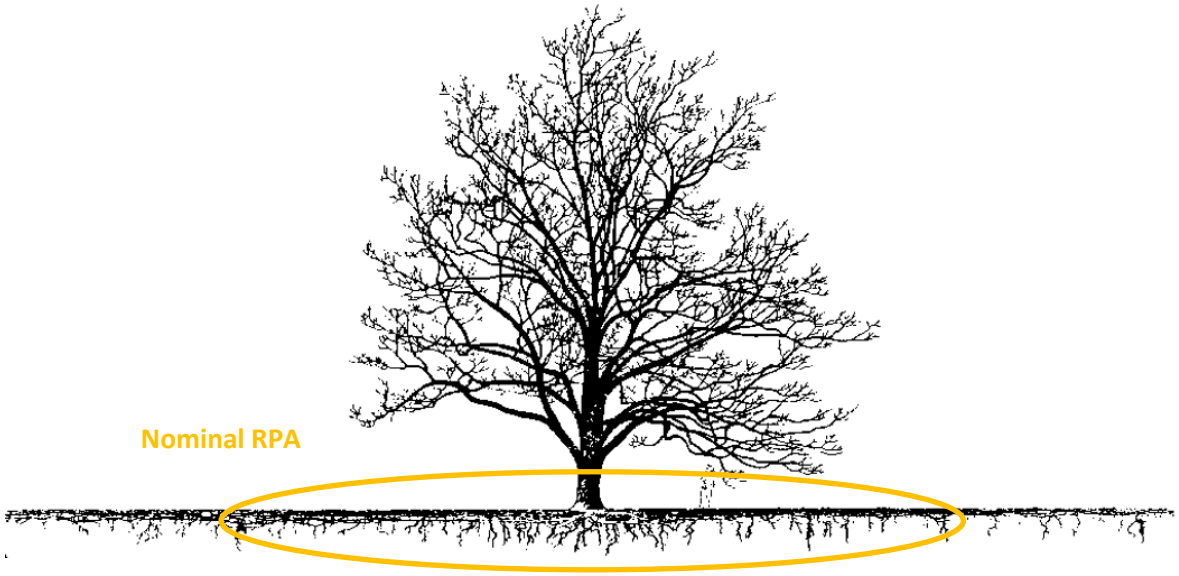
The works are minor and will have a negligible impact on the health or amenity of the trees.

4.5 Damage to the roots and soil of trees during construction:

4.5.1 Root Protection Areas (RPAs) are a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability. The protection of roots and soil structure within the RPA is treated as a priority. The RPAs are shown as amber circles on the scaled Tree Survey and Constraints Plan (Appx.3), and the Tree Protection Plan (Appx. 4). The RPAs and the Root Protection Radii (RPR) are listed in column 5 of the Tree Survey Schedule.

4.5.2 For single stemmed trees, the default (nominal) RPA (amber circles) equates to the area of a circle of which the radius is 12 x the trunk diameter (where the trunk diameter is measured at 1.5 metres above ground level). For multi-stemmed trees, combined stem diameters are used to calculate an equivalent single stem diameter in accordance with paragraph 4.6 of the BS.5837:2012.

- *Illustrative diagram of a tree's typical root distribution and Root Protection Area (RPA)*



4.5.3 Arboricultural impact to roots from construction of the accessibility hub and hardstandings: The layout has been designed to ensure that the footprint of the proposed accessibility hub, hardstanding and new asphalt wearing surface are all outside of the RPAs of retained trees. With temporary protective barriers and ground protection panels installed prior to construction, there shall be no encroachment or harm or any significance to the rooting environment of these trees.

4.5.3 Impact to trees from lowering of soil levels: There shall be no alterations to the ground levels within the RPAs of any retained tree.

4.5.4 Impact to trees from installation of services and drainage: Underground services (electricity & telecoms) can all be routed to the proposed accessibility hub either from the west or the south without any requirement for excavation within the RPA of retained trees. Stormwater from the roof of the accessibility hub can all be drained without any requirement for excavation within the RPA of retained trees. If a soakaway is required, there is ample space for its excavation and installation to the south-east or south-west of the accessibility hub.

5.0 ARBORICULTURAL METHOD STATEMENT

5.1 **Overview:** Successful tree protection during site development hinges on all the parties having read and understood the requirements of the Arboricultural Method Statement (AMS). Failure to adhere to the approved plans may result in damage to retained trees and enforcement action from the Local Planning Authority.

5.2 **Communication:** The Arboricultural Method Statement must be read in conjunction with the Tree Survey Schedule, Tree Protection Plan, and specifications of temporary tree protective measures. A copy of these documents must be kept available for reference on site throughout development. The site manager is responsible for the communication and implementation of the approved documents. All site personnel must be made aware of its contents, the requirement to comply with the sequence of events and ensure that all tree protective measures are carried out throughout development. There must be no deviation to the Arboricultural Method Statement without the written approval of the Local Planning Authority.

5.3 **Sequence of activities and tree protection measures:** The following activities should be undertaken in the sequence listed to ensure successful protection of retained trees. There may be scope for alteration in the sequence of tree protection measures dependent on the phasing of construction works. Any alteration to the default sequence following discussions with the site manager shall be agreed in writing with the LPA.

Order	Activity
1st	• Pre-commencement site meeting (if required) *(s.5.4)*
2nd	• Tree works *(s.5.5)*
3rd	• Erection of temporary protective barriers *(s.5.6)*
4th	• Installation of temporary ground protection *(s.5.7)*
5th	• Construction of accessibility hub *(s.5.8)*
6th	• Installation of services and drainage *(s.5.9)*
7th	• Installation of new asphalt surface *(s.5.10)*
8th	• Remove protective barriers and temporary ground protection *(s.5.11)*
9th	• Soft landscaping (Heads of terms) *(s.5.12)*

5.4 **Pre-commencement site meeting:** If conditioned by the Local Planning Authority, the site manager shall be responsible for contacting the LPA Tree Officer to arrange a meeting to be held on site prior to any development activity. For the sake of clarity, development activity includes; groundworks, excavations or the use, storage and movement of any plant machinery or building materials on site. The meeting shall be attended by the site manager, the local authority tree officer and an appointed arboriculturist (if requested). The purpose of the meeting is to clarify the programme of tree works, position of tree protection measures, the frequency and timing of arboricultural site supervision (if required), and to agree any modifications to the approved Arboricultural Method Statement considered acceptable or necessary. Any modifications shall be submitted in writing to the LPA for approval.

5.5 **Tree works:**

5.5.1 A specification for tree works can be found in columns 11 and 12 of the Tree Survey Schedule (Appendix 1).

5.5.2 **Vehicles:** Tree contractors must not park or manoeuvre vehicles or plant machinery on the lawn. Vehicles must remain on the existing hardstanding of the car park.

5.5.3 **Protection of wildlife:** Arboricultural contractors must abide by the laws and guidance as outlined in section 2.3 of this report. Tree works should not be undertaken during the bird nesting season (March to August) unless thorough secondary checks are made by the arboricultural contractors first.

5.5.4 **Stump treatment:** The stump of the Dogwood (tree stem T4) shall be left in situ. It shall not be grubbed or ground out (to safeguard the roots of the adjacent Field Maple (T3). Where roots of the other Dogwood shrubs are to be ground out or grubbed out, the contractors must make appropriate investigations to avoid the risk of disruption to underground services.

5.5.5 **Arisings:** There shall be no burning of arisings within the site.

5.5.6 **Standard of work:** All tree works shall be carried out in accordance with BS.3998:2010 by fully insured arboricultural contractors, trained and certified for the tasks at hand.

5.6 Erect temporary protective barriers:

5.6.1 Position: Prior to any construction activity, ground works, ingress and storage of any plant machinery or building materials, protective barriers shall be installed in the positions shown by the **red lines** on the Tree Protection Plan (Appendix 4). The location of the protective fencing shall be determined from scaled measurements on the Tree Protection Plan.

5.6.2 Specification for protective barriers – Fig.3 BS.5837: The specification for these protective barriers shown as **thick red lines** in Appendix 4 and shall consist of welded mesh barriers, (Heras® temporary fencing panels are a suitable and widely used product for this purpose) mounted on block trays, clamped together and supported with diagonal struts secured to the ground. The diagonal bracing struts shall be fixed on the tree-side of the barrier. An A3 laminated 'Construction Exclusion Zone' sign shall be fixed to the tree protective barriers with cable ties at 15m intervals

The remaining barriers used to create a safe working enclosure during construction (shown as thin red lines on the Tree Protection Plan), do not require diagonal bracing struts.

5.7 Install temporary ground protection:

5.7.1 Prior to the commencement of ground works or construction activities, temporary ground protection measures are to be installed over the RPAs of retained trees within the enclosure as shown in the areas marked with a hatched brown rectangles on the Tree Protection Plan (Appendix 4).

5.7.2 Purpose and specification of temporary ground protection (Appendix 6): The temporary ground panels shall afford protection from the damaging impact to tree health from the rutting and compaction of soil during construction from the repeated movement of pedestrian contractors, wheel barrows, sack trolleys etc.) when moving building materials into the lawned site. It will be capable of supporting repeated pedestrian contractor activity, but plant machinery or construction vehicles shall not be used on areas of temporary ground protection. Fuels and building materials shall not be mixed or stored on the ground protection. It shall comprise of 7 x 2.4m x 1.2m sheets of exterior grade plyboard placed on top of a compression resistant layer (minimum 100mm depth of woodchip) laid on to a geotextile membrane. 2m^3 of

woodchip shall be required to provide a compressible layer for the temporary ground protection. The temporary ground protection is to remain sacrosanct throughout construction.

5.7.3 Storage: All materials and machinery throughout construction shall be stored within the fenced enclosure or within a designated space on the hardstanding of the car park. The offloading of building materials shall be undertaken from the south side of the enclosure only with vehicles temporarily parked on the exit drive. Select wooden bollards shall have to be temporarily removed to facilitate access of construction materials. Select barrier panels on the south boundary shall be opened to permit offloading and contractor access to the enclosure but shall be secured when access is not required. An alternative access for pedestrian contractors only (no vehicles) can be used on the west side closest to the visitor's centre.

5.8 Construction of the Accessibility Hub:

5.8.1 All tree protective barriers and ground protection panels must remain sacrosanct throughout the course of development. If any of the protective measures are moved or become damaged insofar as that they can be breached, they must be repaired and reinstated with immediate effect.

5.8.2 The storage of building materials, mixing of concrete, cement and aggregates shall take place in the area to the east of the enclosure (diagonally hatched in blue on the Tree Protection Plan). No storing or mixing of concrete, cement and aggregates shall take place on the temporary ground protection panels.

5.8.3 Cement mixers, cement and aggregates shall be stored and mixed on a bunded, heavy gauge plastic sheets to ensure no contamination of the soil. Washings from mixers, hand tools and barrows shall not be disposed of within the site enclosure.

5.9 Installation of services and stormwater drainage: Routing of underground services (electricity / telecoms) shall be outside the RPA of any retained tree, either from the west between the RPAs of T1 and T2, or from the car park to the south.

Excavation of storm water drainage routes and soakaway shall be outside the RPA of any retained tree.

5.10 Installation of new asphalt surface: Asphalt shall not be mixed or stored on the ground protection panels. All tree protective barriers and ground protection panels must remain sacrosanct throughout the course of

development. If any of the protective measures are moved or become damaged insofar as that they can be breached, they must be repaired and reinstated with immediate effect.

5.11 **Remove protective barriers and temporary ground protection completion of <u>all</u> construction works:** The objective is to safeguard the undisturbed RPA of retained trees whilst intensity of construction, ground works, material storage and occupancy of contractors, plant and vehicles are at their greatest.

5.12 **Soft Landscaping:**

5.12.1 The approval of a pre-commencement soft and hard landscape scheme may be conditioned as part of planning permission. The following principles would apply:

5.12.2 There must be no mechanical cultivation or rotavation of any soil within the Root Protection Area of retained trees. All cultivation and digging of tree/shrub pits within RPAs must be undertaken carefully by hand taking care not to sever or damage roots of retained trees.

5.12.3 Herbicides for use in the vicinity of retained trees and new structural planting must be appropriate for the type of vegetation to be killed. Herbicides must be selected and applied in accordance with current UK Pesticides regulations and Health and Safety regulations.

5.13 **Variation to the Arboricultural Method Statement:** Logistics and phasing of site construction may be subject to modification once development commences. If so, there shall be no variation to the approved Arboricultural Method Statement until it has been approved in writing by the Local Planning Authority.

6.0 CONCLUSIONS

6.1 The trees within the site have been surveyed and categorised for quality in line B*S. 5837 Trees in relation to design, demolition, and construction - Recommendations.*

6.2 Construction of the proposed accessibility hub requires the removal of one small tree unsuitable for retention and a small area of shrubs. Proposed pruning is limited to light crown lifting a selective reduction of branch tips which will have no impact of any significance to the health and amenity of the trees.

6.3 The layout of the proposed hub has been designed to ensure that there are no excavations or disturbance of soils within the Root Protection Area of any retained trees.

6.4 Adherence to the principles embodied within the Arboricultural Method Statement shall ensure that no harm of any significance shall be caused to the retained trees and their rooting environments.

Please do not hesitate to contact me if you have any questions.

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