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ARBORICULTURE | ECOLOGY | LANDSCAPE

Arboricultural Implications Assessment

Proposed development at Fowley Cottage, 46 Warblington Road, Emsworth Hampshire PO10 7HH

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1. Introduction

1.1 Scope of report

1.1.1 This report assesses the arboricultural implications of a proposed development at 46 Warblington Road, Emsworth; and details what actions need to be taken to prevent or minimise unacceptable damage to retained trees during the construction period.

1.1.2 The report has been drawn up to comply with the planning requirements of the Local Planning Authority ('LPA'), Havant Borough Council, which specify that an arboricultural implications assessment ('AIA'), arboricultural method statement ('AMS') and tree protection plan ('TPP') are submitted to accompany planning applications affecting sites where trees are present or are in the immediate vicinity; and in accordance with the recommendations of British Standard BS 5837: 2012, *Trees in relation to design, demolition and construction – Recommendations* ('BS 5837').

1.1.3 The AMS at **Section 3** of the report is designed to reflect the principles of the tree protection required for the proposed development, and should not be read as a definitive engineering or construction statement for this site. If required, matters relating to the construction detail or engineering performance of any protective measures specified should be referred to a qualified architect or structural engineer, for further information and specification which may be necessary for their practical implementation in a manner that satisfactorily ensures their protective intention or function.

1.2 Site description and proposals

1.2.1 The site consists of a detached residential property set within extensive grounds accessed from the south side of Warblington Road. The house is two-storey, built of brick under tiled roofs. The house is set back into its grounds with an access drive leading to a wide forecourt and garaging. It is surrounded by a large well-established garden, with mature tree and shrub cover around its boundaries.

1.2.2 The proposed development comprises the re-development of the site including the demolition of the existing house, outbuildings and tennis court followed by the construction of fifteen units with associated parking and access road.

1.3 Tree survey

1.3.1 The trees on the site were surveyed by Michael Roberts on 29th August 2023. Their details are set out in the tree schedule at **Appendix 1** to this report.

1.3.2 The garden contains a wide range of trees and shrubs, the majority of which form mature planted screening belts around its boundaries. Of the trees recorded individually within the survey, Monterey Pine is the most numerous. The hedges and groups are predominantly comprised of coniferous trees (Leyland) and fruit trees principally Apple, Plum and Pear.

1.3.3 Notable arboricultural features of the site are two mature Monterrey Pines (trees' 6 & 7), the well-established, off site, White poplar (tree 9), and a group of trees making up the eastern boundary, consisting of Ash, Beech, Scots Pine, Monterey Pine and Horse Chestnut (trees' 21-28_ These trees are readily visible in the street scene and surrounding properties and are in keeping with the character and appearance of the area, most are suitable coastal species which resist salt spray.

1.4 Statutory protection

1.4.1 From information on the LPA's website, several trees on the site are protected by Tree Preservation Order ('TPO') No. 1352 and 1703. The trees affected are indicated on the TPP.

1.4.2 The site is not in a Conservation Area.

2. Arboricultural implications assessment (AIA)

2.1 Basis of assessment

2.1.1 The TPP at **Appendix 2** shows the finalized proposals overlaid onto the tree locations and constraints plan derived from the tree survey. The implications assessment below is based on this drawing.

2.1.2 The left-hand panel of the TPP shows the tree locations and constraints plan in relation to the existing site and identifies the trees, which are to be removed as a result of the demolition and proposals, whilst the right-hand panel shows the protection measures required during the construction period for the trees which are to be retained.

2.2 Tree removals and pruning

2.2.1 The proposed development will result in the removal of the trees listed in Table 1 below.

2.2.2 Some pruning of the retained trees is required to permit construction of the proposed development. The relevant trees, and the required pruning works, are also listed in Table 2.

Tree no.	Species	Height	BS category	Reason for work
3	Holly	6.5m	C	To allow for proposed dwelling.
4	Hazel	8m	U	Due to poor physiological condition.
5	Silver Birch	8.5m	C	To allow for proposed driveway.
8	Apple	2.5m	U	Dead tree.
15	Cider Gum	18m	B	Due to proximity of proposed access point.
17	Himalayan Birch	12m	C	To allow for proposed parking area.
G1	Cherry Laurel	7m	U	Dead group.
G2	Various	7m max	C	To allow for proposed parking and driveway.
G5	Various	8m max	C	To allow for proposed housing and attenuation tank..
H3 (Partial)	Leyland Cypress & Laural	2.5m	C	Removal of a section to allow the construction of proposed building. Species does not react well to pruning back.
H4	Lawson Cypress	2.5m	C	To allow for proposed parking, housing and new access point.
H5	Birch & Provet	2.5	C	To allow for proposed parking, housing and new access point.

Table 1 – **Tree removals**

2.2.3 Of the trees to be removed trees 4, 8 and G1 are a category 'U' which will require removal irrespective of the proposal due to their declining condition, with trees in G1 being completely dead and should be removed promptly as part of any ongoing site maintenance regardless of the development.

2.2.4 Of the proposed removals only one tree, a Cider Gum (T15) is categorised to be of moderate quality i.e. Category 'B'. This tree is being removed to allow for the construction of a dwelling and the new access route; however, it is located within the interior of the site with limited external views of the tree, this means that there will be minimal impact from external views and within the local landscape.

2.2.5 The remainder of the trees proposed for removal are in the lower category 'C' and as such it is assessed that they are not of a quality that should present any constraint to the reasonable development of the site.

2.2.6 All other trees identified within the survey will be retained, including all those of higher categories, as they are either unaffected by the proposal, or can be successfully protected during the construction period, as shown on the tree protection plan. This applies to the shrub line along the front boundary where the existing shrubs provide some value to the local landscape and so shall, wherever possible, be retained.

Tree no.	Species	BS category	Work required	Reason for work
2	Hawthorn	C	Minor crown lift on S side.	
6	Monterey Pine	B	Crown lift east side of crown to give a 3.5m clearance	To provide suitable crown clearance over parking area.
7	Monterey Pine	B	Crown lift south and west side of crown to give 3.5m crown clearance	To provide suitable crown clearance over parking and driveway
9	White Poplar	B	Crown reduction on the northwest side of crown by 3.5m	To provide a crown clearance of 2.5m to the proposed dwelling.
12	English Oak	A	Crown lift east side of crown to give a 3.5m crown clearance over proposed access drive	To provide suitable crown clearance over the new driveway
14	Weeping Willow	B	Re-pollard	To reduce the tree's crown back to previous points
16	Snow Gum	B	Crown reduction on the east side of the crown by 3.5m leaving a crown radius to the east of 4.5m	To allow for the construction of the proposed dwelling.
22	Sycamore	B	Crown reduction of the northwest side of the canopy by 2m leaving a radius to the northwest of 7m,	To provide a crown clearance of 2.5m to the proposed dwelling.
23	Horse chestnut	C	Crown reduction to the west side of the crown by 5m leaving a radius to the west of 4m	To provide a crown clearance of 2.5m to the proposed dwelling.
24	Monterey Pine	B	Crown reduction to the west side of the crown by 3m leaving a radius to the west of 7m. Also crown lift to give a 4.5m crown clearance on the west side of the crown	To provide a crown clearance to the proposed dwelling.
25	Scots Pine	C	Crown reduction to the west side of the crown by 4m leaving a radius to the west of 4m	To provide a crown clearance to the proposed dwelling.

Tree no.	Species	BS category	Work required	Reason for work
26	Scots Pine	C	Crown reduction to the southwest side of the crown by 3m	To provide a crown clearance to the proposed dwelling.
28	Ash	B	Crown reduction to the northwest side of crown by 4.5m. Also crown lift to provide a 4.5m crown clearance on the west side of the crown.	To provide a crown clearance to the proposed dwelling.
G7	Various	C	Reduce back by pruning or selective removals by up to 3m leaving a 4.5m clearance from the proposed dwelling	To create usable garden space.

Table 2 – **Tree pruning**

2.2.7 The pruning works specified will comply with British Standard BS 3998: 2010, Tree work - Recommendations, and will have no significant impact on the trees' health, longevity or appearance.

2.3 Incursions into root protection areas ('RPAs')

2.3.1 The proposed development will encroach into the RPAs of the trees listed in Table 3 below. The feature of the proposal which will cause the encroachment, and the percentage of the relevant tree's RPA which will be affected, are listed in each case.

Tree no.	Species	BS category	Encroachment type	% of RPA affected	Protection/ mitigation
6	Monterey Pine	B	Proposed surfacing from the expansion of the existing driveway and parking and new dwellings	19% surfacing. 0.5% building. Total 19.5%	Above soil surfacing and supervised excavation
7	Monterey Pine	B	Proposed surfacing from the expansion of the existing driveway and parking and new dwellings	11% surfacing. 1.6% buildings. Total 12.6%	Above soil surfacing and supervised excavation
9	White Poplar	B	Proposed dwelling within RPA	2.6%	Foundations excavated under supervision
~~11~~	~~Monterey Pine~~	~~B~~	~~Proposed dwelling within RPA~~	~~5.7% 0%~~	~~Foundations excavated under supervision~~
12	English Oak	A	Proposed parking and dwelling within RPA	5% surfacing. 0.5% building. Total 5.5%	Above soil surfacing and supervised excavation
14	Weeping Willow	B	Proposed access path and dwelling within RPA	7%	Foundations excavated under supervision
16	Snow Gum	B	Proposed parking, access path and dwelling within RPA	7% surfacing. 20% building. Total 5.5%	Above soil surfacing and supervised excavation
23	Horse Chestnut	C	Proposed dwelling within RPA	1.4%	Foundations excavated under supervision
24	Monterey Pine	B	Proposed dwelling within RPA	10.3%	Foundations excavated under supervision

Table 3 – **Encroachments into RPAs**

2.3.2 To minimise the impacts on the trees listed in *Table 3* a sensitive approach will be undertaken when constructing new hard surfacing and constructing the foundations of the new dwellings. Sensitive surface construction will be required in the form of a 'no-dig surfacing' methodology. Using 'no dig surfacing' means that the installation of a permanent surface in these areas, allowing porosity of water and O2 to the sub-soil, is unlikely to cause any adverse impacts on the trees to be retained.

2.3.3 In this instance the 'no-dig surfacing' will be in the form of a three-dimensional cellular confinement system, such as 'Cellweb'. This is an industry standard approach which aims to fulfil the design criteria by maintaining the passage of oxygen and water to root systems; avoids root loss through severance or asphyxiation and minimises the potential for soil compaction. It is achieved by laying a Geotextile membrane directly onto unchanged soil levels, overlaid with a three-dimensional cellular confinement system ('Cellweb') and filled with no fines granular fill (Mot 3), with a porous finishing surface.

2.3.4 The main access point utilises the existing gravel driveway, but it will be widened to accommodate modern access standards. In this area the existing gravel topping will be removed back to the sub-base and the above soil surfacing will be constructed upon that level. To clarify, no lowering of levels within the RPAs is proposed within areas of no-dig surfacing.

2.3.5 The small areas of foundations for the proposed dwellings when partially within the RPAs of retained trees will be excavated under supervision of a supervising arboriculturist as per the method statement below. The incursions from the dwellings are relatively small at all being 20% or less of the notional rooting area.

2.3.6 The service routes for foul and storm water drainage has been significantly re-designed to minimise any impacts of retained trees.

2.4 Arboricultural implications – summary

2.4.1 The trees within and adjacent to the site have been surveyed in accordance with BS 5837, and the implications of the proposal have been assessed in relation to its findings.

2.4.2 As assessed and detailed above, the proposal will therefore not have a significant impact on trees of importance to the amenity of the locality, or on the quality of the local landscape. Subject to the measures identified on the TPP and specified in the AMS below, all other trees identified within the survey are either unaffected by the proposal or can be successfully protected during the construction period.

2.4.3 The implementation of these measures, and adherence to them during the construction period, can be satisfactorily ensured by means of an appropriate condition, on the grant of planning permission.

2.4.4 This report has been prepared based on the details of the proposal provided to us at the time of its preparation. Should these be amended or revised at any stage during the planning process, the amended details should be referred to us to determine whether any of the findings of this report require revision in the light of the changes.

3. Arboricultural method statement (AMS)

3.1 Pre-start requirements, liaison & communication

3.1.1 Before any works of any description take place on the site, the applicant, landowner or promoter of the proposed development ('the developer') shall appoint a suitably qualified arboricultural consultant to act as the supervising arboriculturist for the project, in order to ensure that the specified tree protection measures are carried out during the entire construction process. Confirmation of this appointment, and details of the supervising arboriculturist appointed, shall be provided to the Local Planning Authority ('LPA') before any works commence.

3.1.2 Before any works commence on site, the developer shall convene a pre-start meeting. This should be attended by the developer or project manager, the site manager, the groundwork contractor, the supervising arboriculturist and, if so required by the LPA, the LPA tree officer. The meeting will be led by the supervising arboriculturist, who will ensure that the sequence and methods of tree protection specified in this statement are fully explained and understood by all parties. Reporting procedures, arboricultural supervision requirements, and frequency of monitoring visits (as detailed in **Section 3.10** and *Table 4* of this AMS) will be discussed and agreed, and relevant contact details exchanged. Any modifications to this statement arising from this meeting will be recorded and the revisions circulated to all parties.

3.1.3 The developer shall inform the supervising arboriculturist if at any time during the construction process, the site manager is replaced. In this event, the supervising arboriculturist will, within 5 days, arrange a meeting with the new site manager to review all remaining or outstanding aspects of this method statement.

3.1.4 A copy of this method statement, together with the TPP, shall be given to all personnel who have control over works of any nature within the root protection areas (RPAs) of the trees which are to be retained. The developer will ensure that adequate instruction is given for the implementation of the protection measures outlined within this statement.

3.2 Tree removals and pruning

3.2.1 The trees listed in *Table 1 & Table 2* above shall be felled to ground level; stumps shall either be ground out to 450mm below ground level, or excavated (grubbed out), as specified.

3.2.2 Some pruning of the retained trees is required to permit construction of the proposed development. The relevant trees, and the required pruning works, are also listed in the table.

3.2.3 Tree felling and pruning will be carried out in accordance with British Standard BS 3998: 2010, *Tree work - Recommendations*.

3.3 Protective fencing

3.3.1 No vehicles of any kind shall enter the site, nor any works commence, until the root protection areas of the retained trees, as shown on the TPP, have been protected by the erection of protective fencing to the specification found in BS 5837, Section 6.2. The location of the fencing is denoted by the continuous bold purple lines on the TPP.

3.3.2 The protective fencing shall be at least 2.1m in height and comprise standard 'Heras' welded mesh fence panels mounted on rubber or concrete feet. The panels shall be fixed to each other with at least two anti-tamper clamps, installed so that they can only be removed from inside the fence.

3.3.3 The fencing shall be supported on the side closest to the retained trees by stabiliser struts braced to the ground at an angle of 45 degrees, and attached to a base plate secured to the ground with ground pins. Where the fencing is to be erected on retained hard surfacing or it is otherwise unfeasible to use ground pins, e.g. due to the presence of underground services, the stabiliser struts should be mounted on a block tray. Notices stating *"Tree Protection Zone – Keep Out"* will be attached with cable ties to every other panel.

3.3.4 No activity of any kind shall be undertaken behind the protective fencing; there shall be no topsoil stripping, no storage of materials, no access for vehicles or personnel, and no excavation or changes in soil level of any kind.

3.3.5 Areas for storing or mixing of fuels, oils or cement shall be agreed at the pre-start meeting. None of these areas shall be within the area behind the protective fencing, and where possible shall not be within 10m of any retained tree.

3.3.6 No fixtures of any nature shall be attached to the retained trees, and no fires shall be lit in any position where heat could affect their foliage or branches.

3.3.7 When the installation of the protective fencing is complete, the supervising arboriculturist shall be informed so that they may come and inspect it. If it complies with this statement, the supervising arboriculturist will record the fact and notify the client and LPA.

3.3.8 The contractor's site huts may, where appropriate, be incorporated into the protective fencing line. If this is to be the case, then their locations must be agreed in advance with the supervising arboriculturist and a method statement supplied that details how the huts are to be placed and supported without compacting the soil within the RPA of any retained tree. Details of the proposed hut locations will be supplied to the LPA in advance of their positioning on site.

3.3.9 Where tall plant or equipment may be passing or working close to the canopies of the retained trees, timber uprights shall be erected and fastened to the protective fencing to prevent accidental damage to branches. Cross members between the uprights shall be marked clearly with reflective tape to ensure high visibility.

3.3.10 If the protective fencing is accidentally damaged or knocked over, the damaged sections shall be immediately marked with high visibility tape or with mesh fencing. The damaged sections shall be replaced or repaired to the original specification within 48 hours. All events of this nature must be recorded and reported to the supervising arboriculturist.

3.3.11 Other than the transition between demolition and construction the protective fencing will not be moved, dismantled or relocated without the prior approval of the supervising arboriculturist. When the construction period is complete the fencing may then be removed, but only after first informing the supervising arboriculturist of this intention.

3.3.12 For the demolition phase of the development including the removal of areas of existing hard surfacing, the protective fencing shall be initially erected in the locations denoted by the dashed bold purple lines in the upper panel of the TPP. Following demolition and removal of the existing hard surfaced areas, the fencing will be relocated to the positions shown in the lower panel of the TPP, for the duration of the construction period of the development.

3.3.13 Upon request detailed annotated version of the TPP can be provided in pdf and dwg formats with annotations denoting the dimensions of the tree protection measures to aid in setting out.

3.4 Ground protection

3.4.1 Where the setting back of the protective fencing in order to provide construction working space results in unmade ground within the RPAs of retained trees being exposed to construction damage, temporary ground protection shall be put in place for the duration of the construction period, in the locations denoted by magenta hatching on the TPP. In order to protect the structure of the soil adjacent to the areas of construction, the ground protection should be capable of supporting any traffic, pedestrian or mechanical, entering or using the relevant areas without being distorted or causing compaction of underlying soil.

3.4.2 The ground protection shall comprise of proprietary inter-linked ground protection boards or 15mm (3/4”) steel sheets placed on top of a compression-resistant layer (e.g. 150mm depth of woodchip), laid onto a geotextile membrane, to accommodate pedestrian-operated plant up to a gross weight of 2 tonnes.

3.4.3 The ground protection shall be installed in the specified locations at the same time as the erection of the protective fencing, prior to any works commencing on the site. When its installation is complete, the supervising arboriculturist shall be informed so that they may come and inspect it. If it complies with this statement the supervising arboriculturist will record the fact and notify the client and LPA.

3.4.4 If, during the course of construction operations, it becomes known that the specification of the installed ground protection in any location will be insufficient to accommodate the loadings to which it will unavoidably be subjected, it shall be replaced or upgraded to a more robust specification immediately, in accordance with BS 5837 recommendations and with the advice of the supervising arboriculturist, before any further works in the relevant areas proceed.

3.4.5 The ground protection shall be retained in place for the duration of the construction operations, and shall not be removed until all works are completed, and all equipment and materials have been removed from the site.

3.5 Demolition

3.5.1 Where indicated on the plan, demolition of the existing structure and removal of existing hard surfacing within RPAs of retained trees shall be undertaken under direct on-site arboricultural supervision. Where possible, the existing hard surfaces within retained trees' RPAs shall be left in situ during the demolition, to provide continuing protection to underlying roots and soil, in the locations denoted in red hatching on the TPP.

3.5.2 Machinery and vehicles used for the demolition of structures shall be stationed and operated either outside the RPAs, or on existing floor slabs or hard surfacing, reinforced as necessary with additional temporary ground protection to support the working loads without distortion or compaction of underlying soil.

3.5.3 Structures shall be demolished so that materials are pulled away from retained trees' RPAs and are stockpiled and loaded away without vehicles encroaching into or traversing them. If existing foundations cannot be left in situ, they shall be broken up using pneumatic or hydraulic breakers, and removed using an excavator fitted with a toothless grading bucket, situated outside the RPAs or on existing floor slabs or hard surfacing, and pulling the material back away from the RPAs before lifting it out of the ground.

3.5.4 Where existing hard surfacing is to be removed within RPAs, the wearing course will be broken up using a hand-held pneumatic breaker and removed using hand tools and wheelbarrows. Where it is necessary to remove the sub-base, this shall be undertaken using digging forks to loosen the material, which will then be removed using hand tools and wheelbarrows. At the discretion of the supervising arboriculturist, it may be possible to use an excavator using a hydraulic breaker and a toothless grading bucket. If an excavator is to be used it must be situated outside the RPAs, either on top of the hard surfacing and working away from the RPAs, or from temporary ground protection.

3.5.5 Any tree roots exposed by the removal of hard surfaces or foundations of structures shall be immediately protected and kept damp by covering with wet hessian. A covering layer of topsoil will be applied as soon as is practicably possible.

3.5.6 Where areas exposed by the removal of hard surfacing are to be reinstated to soft landscaping, the underlying areas shall be lightly decompacted by hand forking over to a maximum of 100mm depth, followed by addition of clean topsoil to BS 3882: 2015, *Specification for topsoil*, to match surrounding levels. If the areas will be exposed to construction traffic movements or activity during the course of remaining construction operations, they shall either be fenced off with protective fencing, or protected by temporary ground protection, in accordance with the specifications given in the relevant sections above.

3.6 Supervised excavations

3.6.1 Where denoted by bold brown lines on the TPP, excavations for foundations shall be undertaken under direct on-site arboricultural supervision. The first 750mm depth of the excavation (or the required depth if this is less than 750mm) shall be excavated using hand tools only.

3.6.2 For foundation trenches, all roots exposed during the excavations shall be cleanly severed by the supervising arboriculturist, using secateurs or a sharp saw. The faces of the excavations nearest to retained trees shall be covered with hessian and kept damp at all times.

3.6.3 Where excavation below 750mm depth is required, this may be undertaken by machine, provided that it is carried out under direct on-site arboricultural supervision, and the machinery is stationed and operated either outside the RPAs of retained trees, or on existing hard surfacing, or on suitable ground protection, and there is adequate clearance from the crowns of retained trees.

3.7 Construction of hard surfaces (no dig)

3.7.1 Where denoted by Red honeycomb hatch on the TPP, the proposed access road/driveway/parking bays within the RPAs of retained trees shall be constructed to the specifications detailed below, in accordance with the recommendations of Section 7.4 of BS 5837.

3.7.2 Where possible, this construction should be undertaken prior to the commencement of any other construction works (other than the erection of protective fencing and installation of ground protection). If this is not feasible, the relevant areas shall be protected from construction traffic, construction operations or soil compaction, either by being fenced off by protective fencing, or by suitable temporary ground protection, in accordance with the specifications earlier in this method statement, for the duration of the construction period up until the time when construction of the relevant areas is able to proceed.

3.7.3 The proposed access road/driveway/parking bays shall be clearly marked out before any associated work starts. Existing vegetation may be removed with hand tools or sprayed with an approved non-residual herbicide.

3.7.4 Any small hollows may be filled with clean sharp sand (not builders' sand) to a maximum depth of 100mm. A permeable geotextile membrane (such as 'Terram') shall be laid down prior to the installation of a cellular confinement system.

3.7.5 The ground shall be covered with a perforated cellular confinement system such as 'Geoweb' or 'Cellweb' with a minimum cell depth of 150mm for the access driveway, parking and 200m for the access road. The cellular confinement material shall be fixed in place over the required areas using steel pins at its edges, before being backfilled with clean, no-fines angular aggregate (20mm-40mm).

3.7.6 Vehicles or machinery used in the process of depositing or spreading the aggregate backfill shall not travel over, or work from, unprotected ground within the RPA of any retained trees. Subject to the depth of the cellular confinement system being adequate to support the loadings, vehicles (such as dumpers or power barrows) may travel over the completed areas of the cellular confinement material, provided that these are filled to their full depth.

3.7.7 Edge supports of appropriate size and strength should be set above ground level and should be secured either with steel pins driven into the ground, or with concrete haunching laid on existing ground level on an impermeable polythene membrane. The outer edge of the supports may be banked up with clean topsoil.

3.7.8 A permeable geotextile membrane will then be laid on top of the cellular confinement system to prevent fines and other debris filling the air spaces in the aggregate. The wearing course or final surface shall be of a permeable and gas porous nature such as porous tarmac or concrete setts with sand jointing.

3.8 Underground services

3.8.1 Detailed drawings of proposed underground services have been produced and submitted by specialist drainage engineers. We have shown the main routes for foul and storm water, including an attenuation tank on our Tree Protection Plan (TPP) thus any potential impacts between trees shown retained on the TPP and proposed services have been identified.

3.8.2 The design of these service routes have been arrived at through an iterative process where we have given arboricultural advice to drainage engineers to ensure minimal impacts on the retained trees.

3.8.3 It is not anticipated that any existing services within RPAs will require upgrading. In the event that this proves necessary, however, care shall be taken to minimise disturbance and where practicable, trenchless techniques employed; only as a last resort shall open excavations be considered. Where existing services within RPAs are deemed not satisfactory for any further use they should be left in situ rather than being excavated/removed.

3.8.4 Where incursions into RPAs are unavoidable, any new installation will comply with the methods and guidelines detailed in in the National Joint Utilities Group (NJUG), Volume 4, Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees, Issue 2, 2007, and in accordance with the specification below.

3.8.5 Where the provision of underground apparatus within RPAs is unavoidable, trenchless insertion methods shall be used, comprising either micro tunnelling, surface-launched directional drilling, pipe ramming or impact moling, as appropriate for the application required and for the distances necessary, as set out at para. 7.7.2 and Table 3 of BS 5837. In all cases, entry and retrieval pits shall be sited outside the RPAs, and excavations for these carried out by machinery stationed and working from outside the RPAs, or on suitable temporary ground protection.

3.8.6 If open excavations for service or drainage trenches within RPAs are unavoidable, these shall be undertaken under direct on-site arboricultural supervision. The first 750mm depth of the excavation (or the required depth if this is less than 750mm) shall be excavated using hand tools only, assisted with an airspade (a compressor-powered compressed air lance), if so required by the Local Planning Authority and/or supervising arboriculturist.

3.8.7 Any roots found with a diameter of less than 25mm shall be cleanly severed by the supervising arboriculturist. If any roots of 25mm diameter and above are found, they shall initially be covered and protected by damp hessian. The supervising arboriculturist shall then decide if it is necessary to retain them. If not, they shall be cleanly severed. If removal of such roots is not feasible, then they shall be wrapped with a 50:50 mixture of topsoil and clean sharp sand with a minimum thickness of 50mm, encased in polythene and retained spanning the trench.

3.8.8 Ducting, cables or pipes for the utilities shall then be threaded into the trench beneath the spanning roots. Backfilling of the trench shall be undertaken in 150mm layers, with clean topsoil only being used within the uppermost 400mm, each layer of backfill being compacted by foot pressure only. Excavator buckets or other mechanical plant will not be used to compact the backfill.

3.9 Landscaping

3.9.1 On completion of construction works, but prior to the commencement of any landscaping works within the protected area behind the protective fencing the developer shall arrange a meeting with the site manager, the supervising arboriculturist and the landscape contractor. The details of this part of the method statement shall be discussed in relation to the proposed landscape operations and a clear sequence of operations established.

3.9.2 Within the RPAs the following principles will be maintained:

- Existing ground levels shall not be substantially altered.
- No plant or vehicles shall enter the RPA.
- No fuels or chemicals shall be stored within any of these areas.
- Any excavation required for fence posts, log retaining walls or any other landscape structures shall be undertaken by hand, under direct arboricultural supervision. If roots are encountered then the position of the excavation shall be moved to a new location. If this is not possible then any roots with a diameter less than 25mm may be cut cleanly by hand. Any exposed roots shall be re-covered within 24hrs of excavation.
- No structure shall be fastened in any way to the trunks of the retained trees.
- No drainage or irrigation pipes shall be installed within the RPAs of the retained trees.
- Any unwanted vegetation shall be removed by hand.

3.10 Supervision & monitoring

3.10.1 At the start of the construction process the supervising arboriculturist shall visit the site on the occasions specified to inspect the tree protection measures (fencing and ground protection) as installed. If these measures comply with the specifications detailed in this method statement, statements of compliance shall be sent to the developer and copied to the LPA.

3.10.2 The supervising arboriculturist shall then visit the site at a maximum of six-weekly intervals, as agreed at the pre-start meeting, or when specifically required as set out in Table 4 below, to ensure that the tree protection measures are kept in place and functioning as designed. Regular contact will be maintained with the site manager to determine any forthcoming operations that may make an impact on these tree protection measures and if arboricultural supervision is required. A record of all monitoring visits will be kept, and copies sent to the developer and the LPA following each visit.

3.10.3 The site manager shall give at least 72 hours' notice to the supervising arboriculturist of any operations, e.g. above soil surface installation, sensitive excavation etc., which may make an impact on the RPAs of the retained trees.

3.10.4 Any alterations or variations in drawings for the site that are in, or within, the RPAs of the retained trees shall be referred in the first instance to the supervising arboriculturist for advice. If these changes make any kind of impact on the retained trees the supervising arboriculturist shall suggest changes that will either avoid damage to the retained trees or offer solutions to minimize the impact. If required, the supervising arboriculturist will liaise with the LPA's tree officer to agree a way forward, since any alterations to the approved details may require the LPA's prior written agreement. Following these consultations, the supervising arboriculturist shall issue revisions to the TPP and/or this AMS that reflect the changes.

3.10.5 Where any operations carried out by the developer deviate substantially from this AMS, work must cease immediately and the LPA be informed in writing. A meeting will be convened between the developer, the supervising arboriculturist, the LPA tree officer and the site manager to determine the best method to mitigate any damage that may have occurred. Work shall not be recommenced until appropriate action has been agreed to the LPA's satisfaction.

Visit no.	Trees affected/ relevant	Timing of visit	Function carried out
1	All	Following tree felling, erection of protective fencing but prior to the start of any demolition works.	To lead the pre-start meeting and to check the fencing is installed in the correct location.
2	All	Following demolition but after the erection of protective fencing and installation of ground protection for the construction stage.	To check protective fencing and ground protection have been installed in the correct locations and to the correct standard.
3	Trees 6, 7, 12, 14 & 16	Immediately prior to commencement of installation of the above soil surfacing.	To oversee the installation of the above soil surfacing.
4	Tree 6, 7, 9, 11, 14, 16 & 24	During the excavation of that section of the foundations within the RPAs	To supervise the manual excavation of the kerb foundations.
5	All	Every four weeks during the construction phase.	To check the protective fencing & ground protection remain in place and that activities which would be harmful to trees are not being carried out.
6	All	At any other time which is sensitive in arboricultural terms.	To ensure retained trees are protected from development activities.

Table 4 - **Timings of supervision and monitoring visits**

David Archer Associates

May 2024
Revision A July 2024

APPENDIX 1 – Tree Schedule

Notes for the Tree Schedule

This schedule is based on a tree survey carried out in accordance with the recommendations of British Standard, BS 5837 (2012) "Trees in relation to design, demolition and construction - Recommendations" ('BS 5837') by Michael Roberts on Tuesday the 29th August 2023. Weather conditions at the time were dry with scattered cloud. Deciduous trees were fully in leaf.
The information contained in this schedule reflects the condition of the trees at the time of the survey, based on visual inspection from the ground only; they were not climbed, and no internal investigations were undertaken. A BS 5837 survey for planning or development purposes is not a detailed tree hazard or risk survey. As such, no guarantee is given as to the structural integrity or safety of any trees included.
As trees are dynamic organisms and subject to continual growth and change, no dimensions expressed in this schedule may be relied upon for development planning purposes for more than 24 months from the date of survey. Estimated dimensions are marked 'est'.

1. **No.:** Expressed in sequential order starting from number 1 – woodlands, groups & hedges are prefixed as W, G, & H respectively.
2. **TPO**: Trees, Tree Groups, and Areas of Trees or Woodlands protected by Tree Preservation Order(s) ref. TPO 1352 and 1703; all trees within the TPO are protected from removal or pruning without the prior consent of the Havant Planning Authority.
3. **Species:** The common name as given in "Collins Tree Guide", Johnson & More (2004).
4. **Height:** Estimated with the aid of a 'Disto' laser rangefinder and expressed in metres, to the nearest metre**.**
5. **Trunk Diameter:** Measured at 1.5m above ground level and expressed in millimetres to the nearest 10mm; where multiple stems are present they are measured individually, and an aggregated equivalent single trunk diameter is calculated in accordance with BS 5837, in order to derive the tree's root protection area ('RPA').
6. **Radial Crown Spread:** Distance in metres from the centre of the trunk to the outermost edge of the crown at each cardinal point of the compass, rounded up to the nearest half metre; or in the case of uniform or symmetrical crowns, the average distance from the centre of the trunk to the outermost edge of the crown.
7. **Crown Clearance:** Mean height, in metres, from adjacent ground level to the lowest point of the live crown.
8. **Height to First Branch:** Height, in metres, of the first significant branch (>100mm diameter), or to crown break from ground level.
9. **Life Stage:** Young, Semi-mature, Mature, Over-mature, Veteran/Ancient.
10. **Physiology:** The tree's health and vigour in comparison to a typical specimen of the same species and age: Good, Average, Below average, Poor, Dead.
11. **Structure:** The tree's structural condition based on assessment of any visible roots, and of its trunk, main branches and crown, noting the presence of any obvious defects or decay: Good, Average, Below average, Poor, Hazardous.
12. **Landscape Value:** An assessment of the tree's visual importance in the local landscape in its present context: High, Moderate, Low, Nil.
13. **Estimated Years:** Estimate of the tree's likely remaining contribution expressed in years: <10, 10-20, 20-40, 40+.
14. **Comments:** Notes relating to the tree's health and condition, structure and form, estimated life expectancy and importance within the local landscape; including notes of any restrictions to access for inspection, presence of potential habitat features (natural or artificial), or other significant observations.
15. **Category: -** A rating given to trees based on Table 1 in BS 5837, summarised below:

Category 'U' - Trees in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management.
Category 'A' - Trees of high quality and value; in such a condition as to be able to make a substantial contribution (normally a minimum of 40 years).
Category 'B' - Trees of moderate quality and value; those in such a condition as to make a significant contribution (normally a minimum of 20 years).
Category 'C' - Trees of low quality and value; currently in adequate condition to remain until new planting could be established (normally a minimum of 10 years), or young trees with a stem diameter below 150mm.
Sub-categories (where appropriate); 1 – Mainly arboricultural qualities: 2 – Mainly landscape qualities: 3 – Mainly cultural values, including conservation.

No.	Species	Height	Trunk Dia.	Radial Crown Spread	Crown Clear-ance	Height to 1st Branch	Life Stage	Physi-ology	Structure	Landscape Value	Est. Years	Comments	Cate-gory
1	Silver Birch	14m	500mm est	N6m E6.5m S5m W5m	N3m NE2m	4.5m NE	Mature	Below average	Below average	Moderate	20-40	Evidence of root plate movement; heavily leaning trunk; previously topped on the past; minor deadwood in crown; slightly sparsely foliated.	C (1)
2	Crab Apple	7.5m	250mm est	E2m S4.5m W6m NW4m	2m	3.5m	Mature	Below average	Below average	Low	10-20	Entangled with brambles; unable to assess base due to density of undergrowth; slightly leaning trunk; sparsely foliated; domestic fruit tree; of limited potential.	C (12)
3	Holly	6.5m	250mm est	4m	0m	1m	Semi-mature	Average	Below average	Low	20-40	Entangled with ivy; unable to survey the base of the trunk; of moderate quality, but currently of low value due to small size.	C (12)
4	Hazel	8m	200mm est	3.5m	1m		Semi-mature	Poor	Below average	Low	<10	Entangled with brambles; unable to assess the base of the trunk; poor crown conformation; very sparsely foliated; of no potential.	U
5	Silver Birch	8.5m	250mm 235mm	NE5.5m SE3m SW4.5m NW5m	NE0.5m SW2m	1m	Semi-mature	Average	Below average	Low	20-40	Entangled with brambles at the base; ivy on trunks; twin stemmed from base; suppressed crown as overtopped by adjacent specimens; of limited potential.	C (12)
6	Monterey Pine	17.5m	1090mm	NE8m SE7.5m SW11m NW8m	N0.5m E0.5m S0.5m W3.5m	2m E	Mature	Average	Average	High	40+	Ivy on trunk; slightly leaning trunk; storm damage in crown; minor deadwood in crown; of visual importance; no significant structural defects found at time of survey.	B (12)
7	Monterey Pine	21m	1115mm	NE9m SE10.5m SW9.5m NW9m	N1m E1m SE0.5m S1m SW2m W1m	2.5m NE	Mature	Average	Average	High	40+	Ivy on trunk; essential component of site in which it stands; minor dead wood in crown ; good example of species; no significant structural defects found at time of survey.	B (12)
8	Apple	2.5m	150mm	2.5m	1m	0.75m	Dead	Dead	Below average	Nil	Dead	Dead tree.	U
9	White Poplar	22m	1000mm est	N11m E10m S10.5m W8.5m	3m	6m W	Mature	Average	Average	High	20-40	Off-site tree; broken branches hung up in crown; minor deadwood in crown; of visual importance.	B (2)
10	Snow Gum	11m	400mm est	N5m E5m S9m W6m	3m	3m S	Semi-mature	Average	Below average	Moderate	20-40	Entangled with brambles at the base; crown overhangs adjacent building; suppressed crown as overtopped by adjacent specimens; of limited potential.	C (12)

No.	Species	Height	Trunk Dia.	Radial Crown Spread	Crown Clear-ance	Height to 1st Branch	Life Stage	Physi-ology	Structure	Landscape Value	Est. Years	Comments	Cate-gory
11	Monterey Pine	17m	1130mm	9m	3m	2m E	Mature	Average	Average	High	40+	Off-site tree; ivy on trunk; no significant structural defects found at time of survey.	B (12)
12	English Oak	17.5m	900mm	N11m E11.5m S12m W11.5m	E1m	4.5m	Mature	Good	Good	High	40+	Ivy on trunk; particularly good example of species; of particular visual importance; no significant structural defects found at time of survey.	A (12)
13	Norway Maple	13m	400mm est	N5m E5m S5m SW3.5m W5m	4.5m	3.5m	Semi-mature	Average	Average	Moderate	20-40	Previously reduced; small cavities forming at sites of previous pruning wounds; no significant structural defects found at time of survey.	B (12)
14	Weeping Willow	15.5m	770mm	NE8m SE7m SW9m NW9.5m	2m	2.5m	Mature	Average	Average	Moderate	20-40	Ivy on trunk; previous pollarded in the past; no significant structural defects found at time of survey.	B (12)
15	Cider Gum	18m	700mm ivy	NE7.5m SE9.5m SW6.5m NW4.5m	SE2m	4m	Mature	Average	Below average	Moderate	20-40	Ivy on trunk; slightly leaning trunk; sub dominant stem removed in the past; north side of trunk; asymmetrical crown as suppressed by adjacent specimens; no significant structural defects found at time of survey.	B (2)
16	Snow Gum	22m	1065mm ivy	N7m E8m S11m W9m	4.5m	4m	Mature	Average	Average	Moderate	20-40	Ivy-covered; asymmetrical crown as suppressed by adjacent specimens; no significant structural defects found at time of survey.	B (12)
17	Himalayan Birch	12m	485mm	N6m E7m S6m W2m	4m	2m	Mature	Below average	Below average	Low	20-40	Ivy-covered; slightly leaning trunk; one-sided crown as suppressed by adjacent specimens; much epicormic growth throughout crown.	C (12)
18	English Oak	9m	350mm est	5.5m	3.5m	4m	Semi-mature	Average	Below average	Moderate	20-40	Crown has been severely lifted in past.	C (12)
18	English Oak	10m	450mm	7m	6m	3m	Semi-mature	Below average	Below average	Moderate	20-40	Many non-occluded pruning wounds on trunk; crown has been severely lifted in past.	B (2)
19	Holm Oak	11m	400mm est	6m	5m	4m	Semi-mature	Average	Below average	Moderate	40+	Off-site tree; crown has been severely lifted in past.	B (2)
20	Weeping Willow	5m	750mm ivy est	3.5m	0.5m	3m	Mature	Average	Below average	Low	20-40	Recently pollarded at 3m; regrowth at 2-3m in length.	C (12)

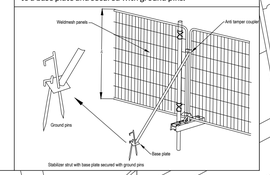
No.	Species	Height	Trunk Dia.	Radial Crown Spread	Crown Clear-ance	Height to 1st Branch	Life Stage	Physi-ology	Structure	Landscape Value	Est. Years	Comments	Cate-gory
21	Beech	17m	390mm ivy 665mm ivy	N3m E7m SE7m S4m SW9.5m W10m NW9m	1m	3m	Mature	Average	Below average	Moderate	20-40	Asymmetrical crown as once suppressed by adjacent specimen; now pollarded; crown recovering from suppression; ivy on trunks; unable to access tree trunk due to density of ivy; no significant structural defects found at time of survey.	B (12)
22	Sycamore	18m	345mm 375mm	N6m E7m S2m W10m	SW1m	2m	Semi-mature	Average	Below average	Moderate	20-40	Asymmetrical crown as suppressed by adjacent specimens; ivy on trunk; no significant structural defects found at time of survey.	B (2)
23	Horse Chestnut	15m	470mm 260mm 340mm	N3m E7m S4m W9m	W1m	3m	Semi-mature	Below average	Below average	Low	20-40	Suppressed specimen; leaf minor present in foliage.	C (12)
24	Monterey Pine	18.5m	840mm ivy	N8m E9m S5m W10m NW12m	W2.5m NW0m	2m	Mature	Average	Below average	Moderate	20-40	Broken branches hung up in crown; asymmetrical crown as suppressed by adjacent specimens; ivy-covered; no significant structural defects found at time of survey.	B (2)
25-26	Scots Pine	16m	#T25 355mm ivy #T26 335mm ivy	N3m E4m S4m W8m	W2m	3.5m	Semi-mature	Below average	Below average	Moderate	20-40	Ivy covered; slightly leaning trunks; asymmetrical crown as suppressed by adjacent specimens; slightly sparsely foliated.	C (12)
27	Beech	19m	740mm	N9.5m E5m S8m W7m	2m	2m	Mature	Average	Below average	Moderate	20-40	Asymmetrical crown as suppressed by adjacent specimens; no significant structural defects found at time of survey.	B (12)
28	Ash	20m	375mm est 450mm est	N10m E8m S10m W9m	W1m	5m	Mature	Below average	Average	Moderate	20-40	Off-site tree; twin stemmed from base; asymmetrical crown as suppressed by adjacent specimens; slightly sparsely foliated.	B (2)
G1	Cherry Laurel	7m	Avg 200mm est	0m	0m	0m	Dead	Dead	Hazardous	Nil	Dead	Should be removed for sound arboricultural management reasons.	U

No.	Species	Height	Trunk Dia.	Radial Crown Spread	Crown Clear-ance	Height to 1st Branch	Life Stage	Physi-ology	Structure	Landscape Value	Est. Years	Comments	Cate-gory
G2	Ash, Pissards Plum, Apple and Cherry Laurel	Min 3m Max 7m	Max 150mm	3m	0.5m		Semi-mature	Average	Below average	Low	20-40	Overgrowth area; brambles make it inaccessible; pioneers species and typical garden species within group; of no material value.	C (12)
G3	Hazel, Apple, Pear, Holm Oak & Elaeagnus	Min 3m Max 5m	Max 150mm	3m	0.2m	0.5m	Semi-mature	Below average	Below average	Low	20-40	Entangled with brambles and ivy at the bases, adjoining group in a area of small, ornamental and domestic trees; of limited potential.	C (12)
G4	Bay, Kapuka, Autumn Elaeagnus Pittosporum	Min 4m Max 6.5m	Max 100mm est	3m	0.2m	0.4m	Semi-mature	Average	Below average	Low	10-20	Belt of closely planted specimens, designed to form a screen.	C (12)
G5	Apple, Plum and Pear	Min 4m Max 8m	Max 200mm	5m	1m	1m	Mature	Average	Average	Low	10-20	Group almost completely engrossed by brambles; difficult to assess trunks and sizes; of short term potential only; collection of domestic fruit trees.	C (12)
G6	Monterey Pine	Min 12m Max 16m	Min 400mm Max 620mm	N6m E6m S7m W9m	2m	3m W	Mature	Below average	Below average	Moderate	20-40	Ivy on trunks; mutually suppressed; storm damage in crown; major deadwood in crowns; slightly sparsely foliated; of limited potential.	C (1)
G7	Holly, Hazel, Myrobalan Plum and Bay	6m	Avg 150mm est	5m	0m	0.3m	Semi-mature	Average	Below average	Low	20-40	Of only temporary screening benefit; of only low-level screening value.	C (12)
H1	Privet	3m	Avg 70mm	1m	0m	0.2m	Semi-mature	Average	Average	Low	10-20	Row of closely planted specimens, designed to form a hedge or screen; appears to be regularly managed.	C (12)
H2	Cherry Laurel, Bay and Leyland Cypress	3.5m	Avg 100mm est	1.5m	0.3m	0.5m	Semi-mature	Average	Below average	Low	20-40	Of only low-level screening value; row of closely planted specimens, designed to form a hedge or screen.	C (12)
H3	Leyland Cypress and Laurel	2.5m	Avg 100mm est	1m	1m	0.5m	Semi-mature	Average	Average	Low	20-40	Row of closely growing specimens, forming a hedge or screen; appears to be regularly managed.	C (12)
H4	Lawson Cypress	2.5m	Avg 100mm est	1m	0.1m	0.2m	Semi-mature	Average	Average	Low	20-40	Of only low-level screening value; screens existing tennis court.	C (12)
H5	Beech and Privet	2.5m	Max 100mm	1m	0.4m	0.4m	Semi-mature	Average	Below average	Low	20-40	Row of closely planted specimens, designed to form a hedge or screen.	C (12)

APPENDIX 2 – Tree Protection Plan

PROTECTIVE FENCING

To comprise of 2m tall welded mesh panels on rubber or concrete feet. Panels are to be joined together using a minimum of 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 stabiliser struts, which should be attached to a base plate and secured with ground pins.



GROUND PROTECTION

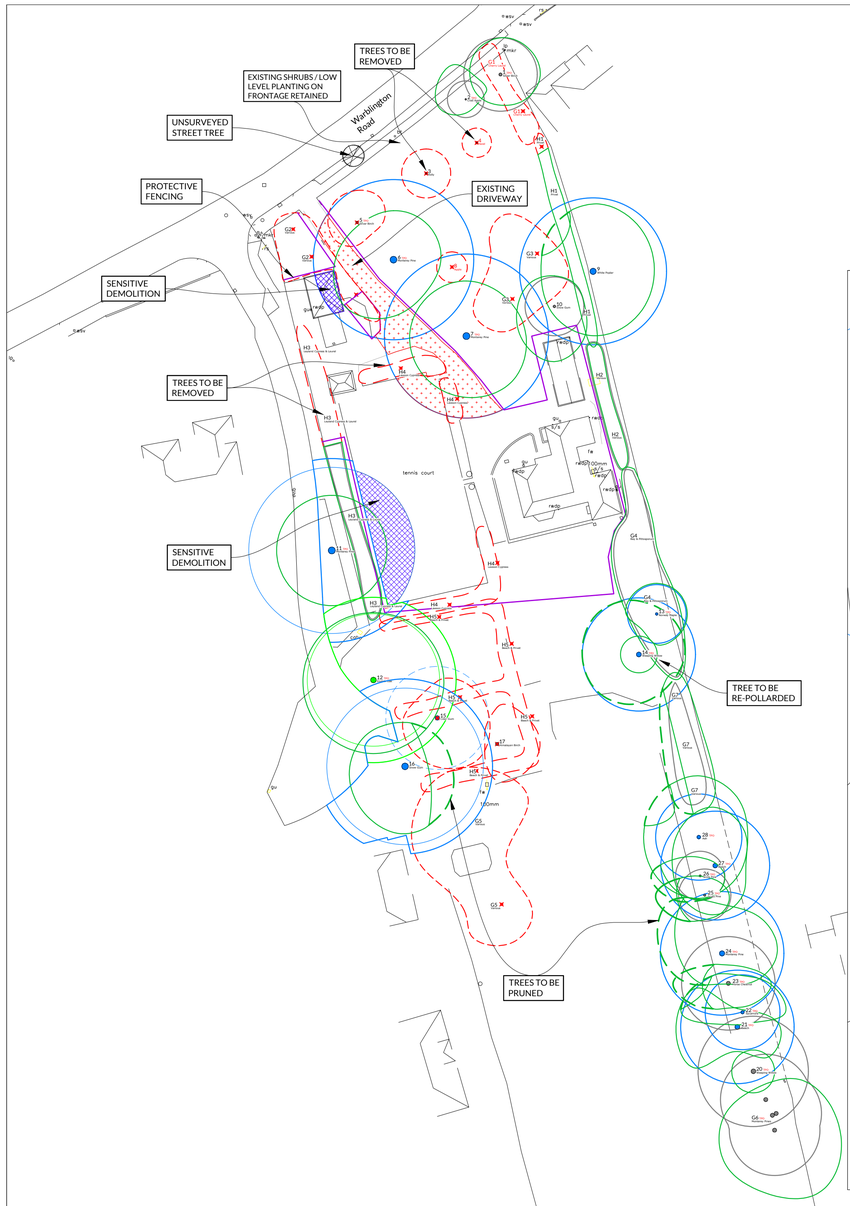
To be installed prior to any construction works. For ***pedestrian movements only***, proprietary inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150mm depth of woodchip), laid onto a geotextile membrane;

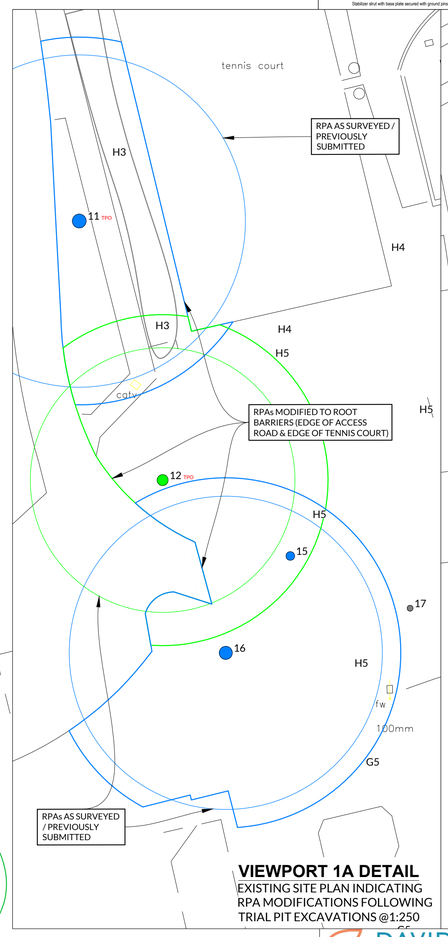
ABOVE SOIL SURFACING

Hard surfacing shall be constructed using an above soil surface design in accordance with guidance set out in Section 7 of BS 5837: 2012 Trees in relation to design, demolition and construction – Recommendations.
There shall be no lowering of existing soil levels or severance of any tree roots.

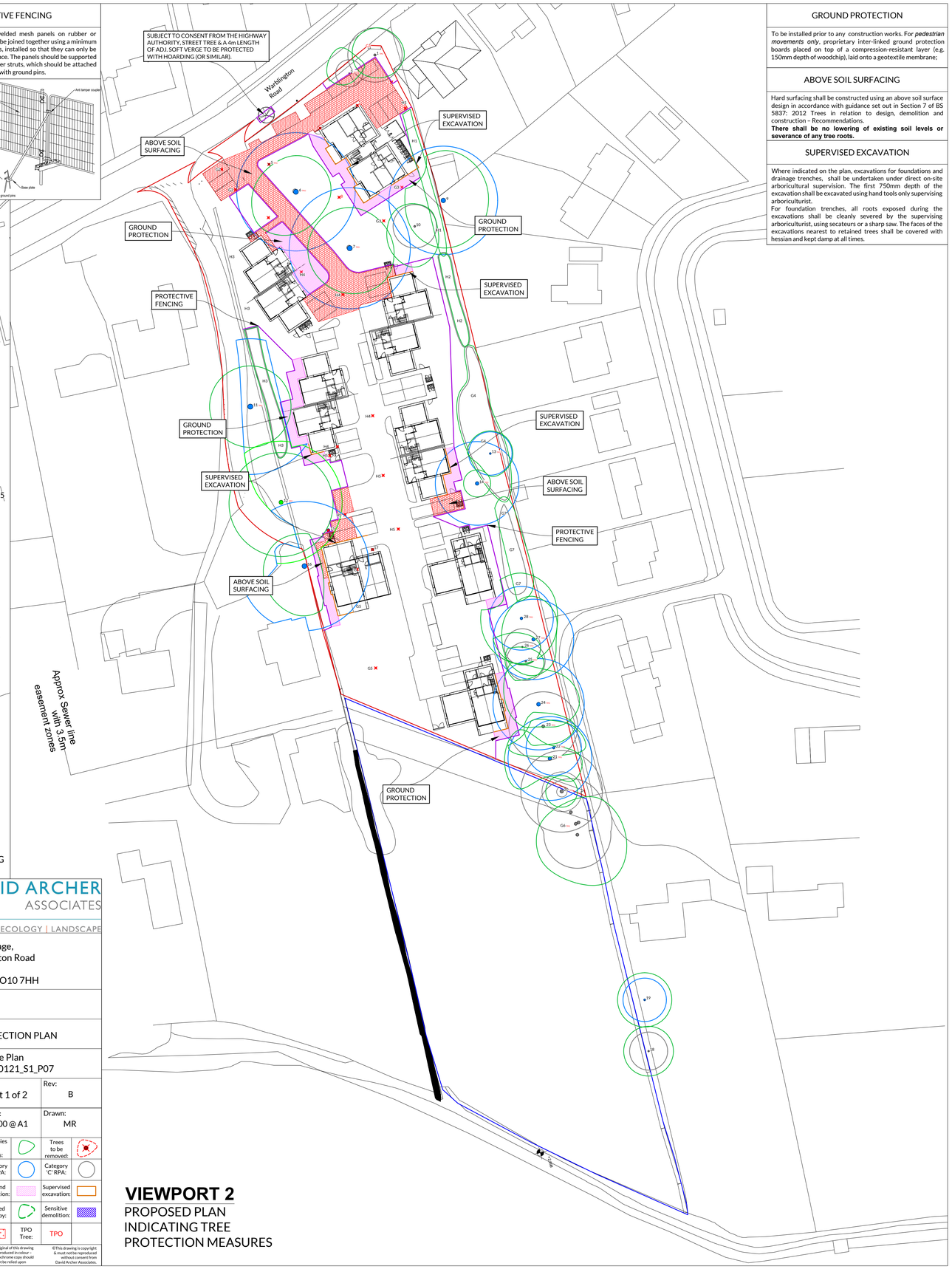
SUPERVISED EXCAVATION

Where indicated on the plan, excavations for foundations and drainage trenches, shall be undertaken under direct on-site arboricultural supervision. The first 750mm depth of the excavation shall be excavated using hand tools only supervising arboriculturist.
For foundation trenches, all roots exposed during the excavations shall be cleanly severed by the supervising arboriculturist, using secateurs or a sharp saw. The faces of the excavations nearest to retained trees shall be covered with hessian and kept damp at all times.





VIEWPORT 1A DETAIL
EXISTING SITE PLAN INDICATING RPA MODIFICATIONS FOLLOWING TRIAL PIT EXCAVATIONS @1:250



SUPERVISED DEMOLITION / SURFACE REMOVAL

Where indicated on the plan, demolition of the existing structure(s) and/or removal of existing hard surfacing within RPAs of retained trees shall be undertaken under direct on-site arboricultural supervision. Where possible, existing hard surfaces within retained trees' RPAs shall be left in situ during the demolition, to provide continuing protection to underlying roots and soil. Machinery used for the demolition of structures shall be stationed and operated either outside the RPAs, or on existing floorslabs or hard surfacing, reinforced as necessary with additional temporary ground protection to support the working loads without distortion or compaction of underlying soil.
Structures shall be demolished so that materials are pulled away from retained trees' RPAs and are stockpiled and loaded away without vehicles encroaching into or traversing them. If existing foundations cannot be left in situ, they shall be broken up using pneumatic or hydraulic breakers, and removed using an excavator fitted with a toothless grading bucket, situated outside the RPAs or on existing floorslabs or hard surfacing, and pulling the material back away from the RPAs before lifting it out of the ground.
Where existing hard surfacing is to be removed within RPAs, the wearing course will be broken up using a hand-held pneumatic breaker, and removed using hand tools and wheelbarrows. Where it is necessary to remove the sub-base this shall be undertaken using digging forks to loosen the material, which will then be removed using hand tools and wheelbarrows. At the discretion of the supervising arboriculturist, it may be possible to use an excavator using a hydraulic breaker and a toothless grading bucket. If an excavator is to be used it must be situated outside the RPAs, either on top of the hard surfacing and working away from the RPAs, or from temporary ground protection.
Any tree roots exposed by the removal of hard surfaces or foundations of structures shall be immediately protected and kept damp by covering with wet hessian. A covering layer of topsoil will be applied as soon as is practicably possible.

0m 10m 25m 50m
1:500@A1

VIEWPORT 1A
EXISTING SITE PLAN INDICATING PROPOSED TREE REMOVALS

VIEWPORT 2
PROPOSED PLAN INDICATING TREE PROTECTION MEASURES

DAVID ARCHER ASSOCIATES
ARBORICULTURE | ECOLOGY | LANDSCAPE

Project:	Fowley Cottage, 46 Warblington Road Emsworth Hampshire PO10 7HH
Client:	Re-format
Drawing:	TREE PROTECTION PLAN
Based on:	Proposed Site Plan 23034-RFT-0121_S1_P07
Drawing No:	TPP 02 Sheet 1 of 2
Rev:	B
Date:	Jul 2024
Scale:	1:500 @ A1
Drawn:	MR

Tree nos.:	● 1	Canopies of trees:		Trees to be removed:	
Category 'A' RPA:		Category 'B' RPA:		Category 'C' RPA:	
Protective fencing:		Ground protection:		Supervised excavation:	
Above soil surfacing:		Pruned Canopy:		Sensitive demolition:	
	Existing Driveway:		TPO Tree:	TPO	

David Archer Associates.
info@davidarcherassociates.co.uk
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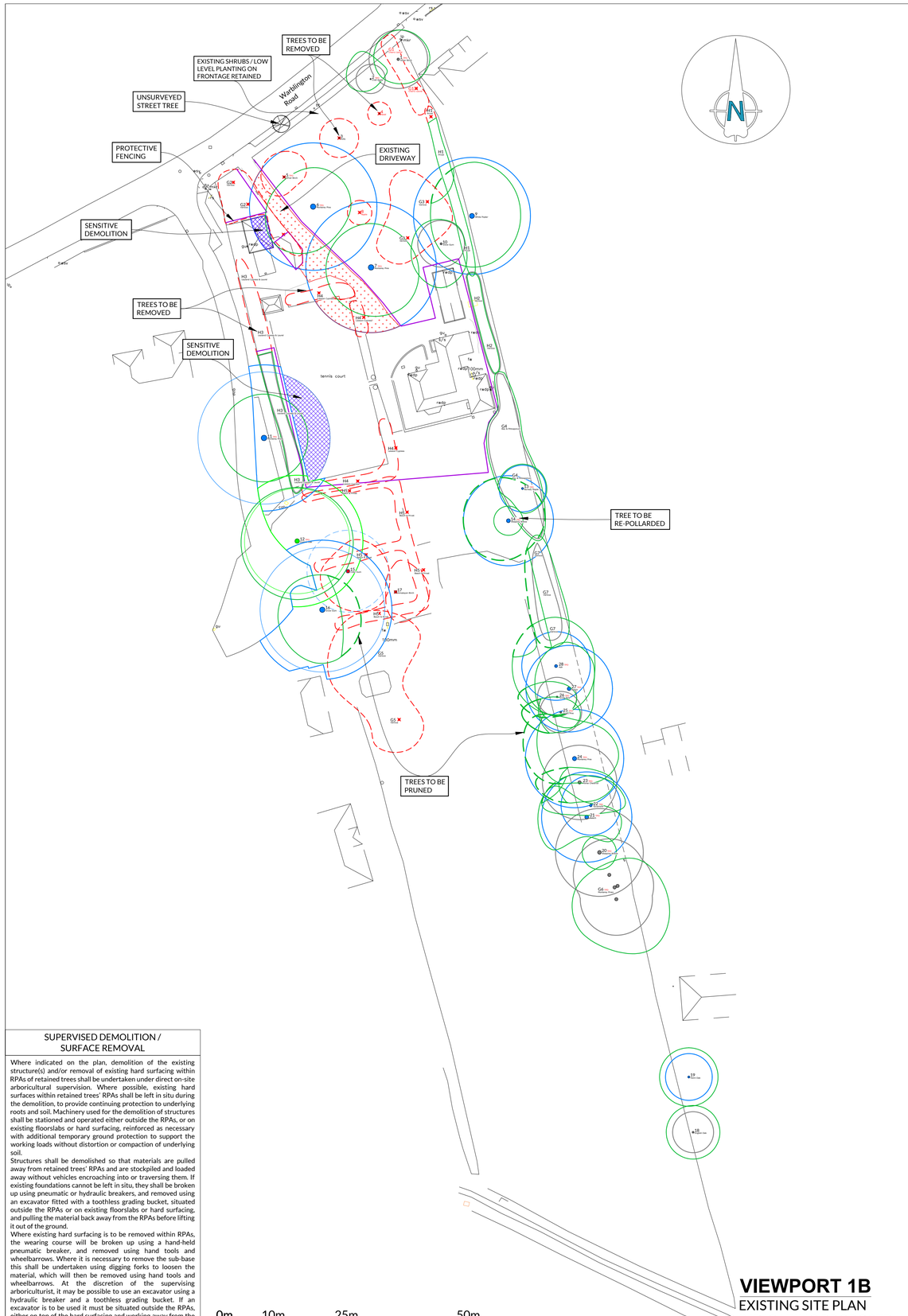

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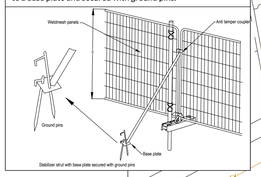

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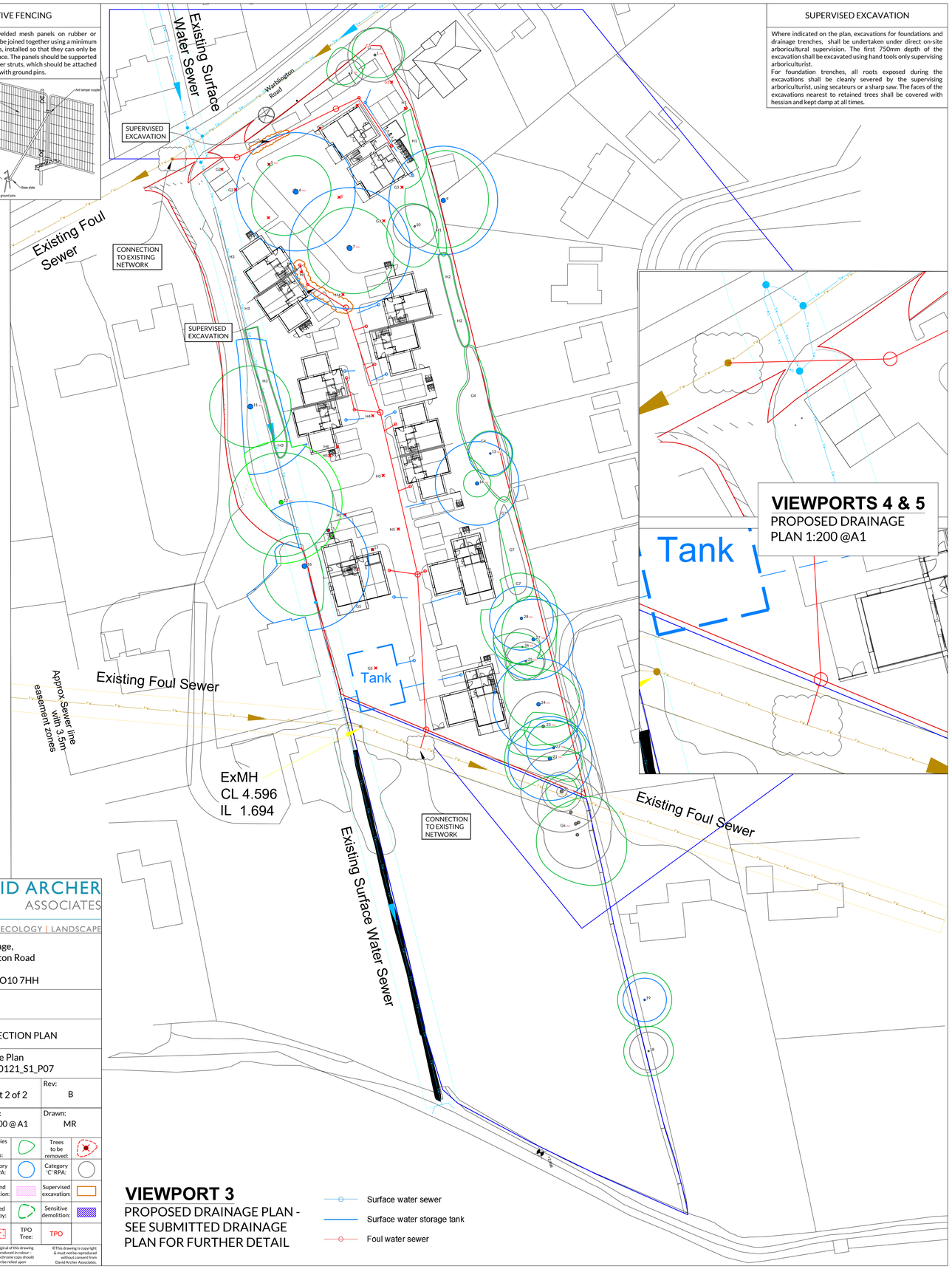
Where indicated on the plan, excavations for foundations and drainage trenches, shall be undertaken under direct on-site arboricultural supervision. The first 750mm depth of the excavation shall be excavated using hand tools only supervising arboriculturist.

For foundation trenches, all roots exposed during the excavations shall be cleanly severed by the supervising arboriculturist, using secateurs or a sharp saw. The faces of the excavations nearest to retained trees shall be covered with hessian and kept damp at all times.



VIEWPORTS 4 & 5
PROPOSED DRAINAGE PLAN 1:200 @A1

SUPERVISED DEMOLITION / SURFACE REMOVAL

Where indicated on the plan, demolition of the existing structure(s) and/or removal of existing hard surfacing within RPAs of retained trees shall be undertaken under direct on-site arboricultural supervision. Where possible, existing hard surfaces within retained trees' RPAs shall be left in situ during the demolition, to provide continuing protection to underlying roots and soil. Machinery used for the demolition of structures shall be stationed and operated either outside the RPAs, or on existing floorslabs or hard surfacing, reinforced as necessary with additional temporary ground protection to support the working loads without distortion or compaction of underlying soil.

Structures shall be demolished so that materials are pulled away from retained trees' RPAs and are stockpiled and loaded away without vehicles encroaching into or traversing them. If existing foundations cannot be left in situ, they shall be broken up using pneumatic or hydraulic breakers, and removed using an excavator fitted with a toothless grading bucket, situated outside the RPAs or on existing floorslabs or hard surfacing, and pulling the material back away from the RPAs before lifting it out of the ground.

Where existing hard surfacing is to be removed within RPAs, the wearing course will be broken up using a hand-held pneumatic breaker, and removed using hand tools and wheelbarrows. Where it is necessary to remove the sub-base this shall be undertaken using digging forks to loosen the material, which will then be removed using hand tools and wheelbarrows. At the discretion of the supervising arboriculturist, it may be possible to use an excavator using a hydraulic breaker and a toothless grading bucket. If an excavator is to be used it must be situated outside the RPAs, either on top of the hard surfacing and working away from the RPAs, or from temporary ground protection.

Any tree roots exposed by the removal of hard surfaces or foundations of structures shall be immediately protected and kept damp by covering with wet hessian. A covering layer of topsoil will be applied as soon as is practically possible.

0m 10m 25m 50m
1:500@A1

VIEWPORT 1B
EXISTING SITE PLAN INDICATING PROPOSED TREE REMOVALS

VIEWPORT 3
PROPOSED DRAINAGE PLAN - SEE SUBMITTED DRAINAGE PLAN FOR FURTHER DETAIL

- Surface water sewer
- Surface water storage tank
- Foul water sewer

DAVID ARCHER ASSOCIATES
ARBORICULTURE | ECOLOGY | LANDSCAPE

Project:	Fowley Cottage, 46 Warblington Road Emsworth Hampshire PO10 7HH
Client:	Re-format
Drawing:	TREE PROTECTION PLAN
Based on:	Proposed Site Plan 23034-RFT-0121_S1_P07
Drawing No:	TPP 02 Sheet 2 of 2
Rev:	B
Date:	Jul 2024
Scale:	1:500 @ A1
Drawn:	MR

Tree nos.:	● 1	Canopies of trees:		Trees to be removed:	
Category 'A' RPA:		Category 'B' RPA:		Category 'C' RPA:	
Protective fencing:		Ground protection:		Supervised excavation:	
Above soil surfacing:		Pruned Canopy:		Sensitive demolition:	
	Existing Driveway:		TPO Tree:	TPO	

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APPENDIX 3 – Trial Pit Report

DAVID ARCHER ASSOCIATES

ARBORICULTURE | ECOLOGY | LANDSCAPE

BRIEFING NOTE

Prepared for:	**Matt Swanton, Andy Stallan**
Prepared by:	**David Archer**
CC:	
Re:	**Trial pit results at 46 Warblington Avenue, Emsworth**

Thursday, 04 July 2024

Following the excavation of trial pits on Monday the 1st of July to determine soil conditions at the above site the following comments describe the findings.

A total of 4 pits were excavated to an average depth of 400-450mm. These showed a fine sandy loam to a depth between 100-150mm below which is a layer of lighter sand/silt with a major clay component.

At an average depth of 150mm-450mm a layer of clay with flint was exposed. This is typically found above a stratum of chalk bedrock and confirms the information found on the British Geology 0n-line web site.

One root was found within trial pit 1, this was safely assumed to belong to T16, as the pit was located 3m from it's base. A number of tree roots were exposed within trial pit 2 but they were found to belong to the Cider Gum (T15); this tree will be removed as part of the proposals.

The result of these findings is that Curlew Drive is likely to present a complete root barrier for trees nos. 11, 12 & 16. With these findings, it can be safely assumed that the existing tennis court within 46 Warblington Road, is also a root barrier, due to the findings from trial pit 3. where a large but not significant root (approx. 35mm diameter) was exposed and found to be deflecting away from the tennis court surface approx. 150mm below the topsoil. This is verified by no such disruption to the tennis court surface.

Accordingly, we have modified the root protection areas (RPAs) as shown on our Tree Protection Plan (TPP) to reflect this restriction. The trimming in area of the RPAs under the Curlew drive have been added to the RPAs within Warblington Ave. This means that the proposed dwellings will, in arboricultural terms have an decreased impact on T11 to 0%. Slight incursions increase impact on the retained trees T12 & 16 over that as shown on our original TPP.

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Company Reg No.: 10627581 (England & Wales)
Registered Office: Chesham House, Eastbourne Road,
Halland, East Sussex BN8 6PT

Our assessment shows that the RPA affected amount to 0% of T11, 1% of T12 and 20% of T16.

This impact still lies within accepted norms for potential impacts and is able to be mitigated by extending the original construction methodologies to reflect the larger area of incursion.

Accordingly, it is our opinion that provided the mitigation measures are complied with, as set out in the revised TPP, there will be no long term adverse effects to the retained trees.

Yours sincerely

David Archer | Practice Principal
M.Arbor.A.

Photograph 1: Showing location of **trial pit 1** approx. 3m from the trunk of T16 (Snow Gum)

Photograph 2: Trial pit 1: commencement- only fibrous roots found at 50mm in depth.
All pits to approximately 250mm x 400mm

Photograph 3- Trial pit 1: continuation to 100mm, only fibrous roots found.

Photograph 4 – trial pit 1: close up of fibrous roots up to 5mm in diameter.

Photograph 5- Trial pit 1: At 450mm in depth one 10mm diameter root encountered- digging ceased due to denseness and dryness of the clay substrate.

Photograph 6 – Trial pit 2: location from T15 (Cider Gum) approximately 5m from the trunk.

Photograph 7- Trial Pit 2: Immediately encountered a large root from Cider gum (T15) of 35mm in diameter, identified by its smoothness of outer root as opposed to the shaggy outer of Snow Gum (T16). Digging ceased at 100mm in depth due to the presence of large root.

Photograph 8- Trial pit 3: location, is immediately adjacent to existing tennis courts 6m from T11 (Monterey Pine)

Photograph 9 – Trial pit 3: 100mm in depth only fibrous roots encountered

Photograph 10- Trial pit 3: 200mm in depth and due to the density of the clay a root of 15mm diameter was severed at 150mm deep. This was cleanly severed using a Silky Gomato.
Note its location immediately adjacent to and running alongside the tennis court

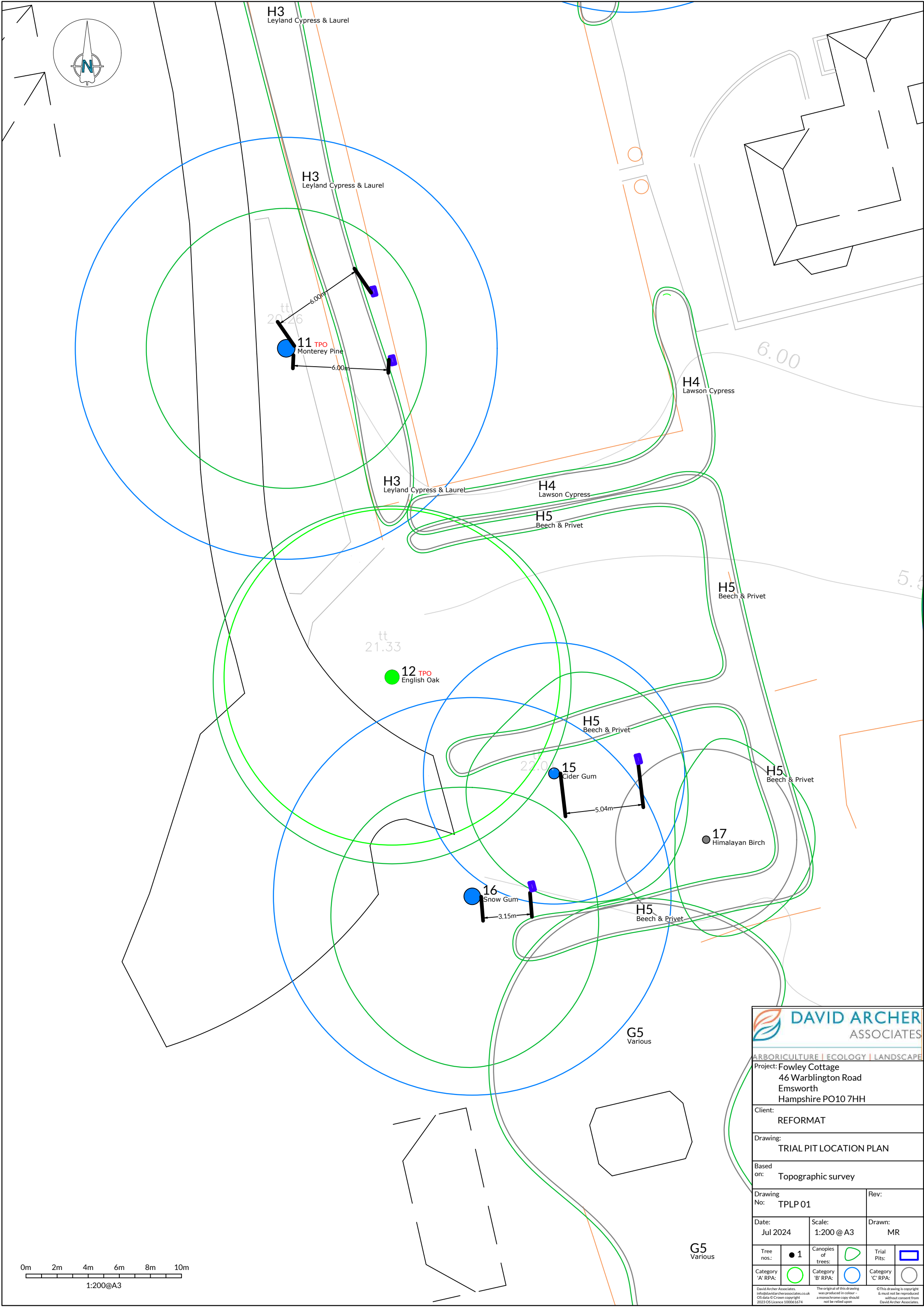
Photograph 11- Trial pit 3 extent. Ceased digging at 400mm in depth, as no further roots encountered.

Photograph 12- Trial Pit 4 located adjacent to tennis court and 4m north of trial pit 3. At 100mm in depth, roots of 35mm and 10mm in diameter discovered.

Photograph 13 – Trial Pit 4: close up of root encountered.

Photograph 14- Trial pit 4: Extent of dig depth of 300mm.

APPENDIX 1 – Trial pit location plan



DAVID ARCHER ASSOCIATES

ARBORICULTURE | ECOLOGY | LANDSCAPE

Project:	Fowley Cottage 46 Warblington Road Emsworth Hampshire PO10 7HH
Client:	REFORMAT
Drawing:	TRIAL PIT LOCATION PLAN
Based on:	Topographic survey
Drawing No:	TPLP 01
Rev:	
Date:	Jul 2024
Scale:	1:200 @ A3
Drawn:	MR
Tree nos.:	● 1
Canopies of trees:	
Trial Pits:	
Category 'A' RPA:	
Category 'B' RPA:	
Category 'C' RPA:	

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