

Arboricultural Impact
Assessment and
Method Statement

New Dwelling at 3
Tangmere Road

South
Downs
Ecology

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1.0 Introduction

- 1.1 A tree survey and tree protection package have been commissioned for the proposals for new dwelling at 3 Tangmere Road.
- 1.2 A detailed tree survey was carried out on 16th January 2024 by George Sayer (*BScHons PgDip MArborA; LANTRA Professional Tree Inspection 2019*); from which a schedule and constraints plan of existing trees on and surrounding the site was produced in accordance with *BS 5837:2012 – ‘Trees in Relation to Design, Demolition and Construction – Recommendations’*. From this information an arboricultural impact assessment was undertaken, and a plan of tree protection devised to ensure the long-term retention of the trees on-site.

Proposals

- 1.3 The proposals are for the removal of an existing attached garage and store forming part of No. 03 and construction of a new dwelling in the garden. The garden would be divided in two, access would come from the existing driveway to No. 03.

Site Description

- 1.4 The site consists of a triangular site, containing detached dwelling and garage, with driveway and gardens, surrounded by other detached residential dwellings and gardens to all aspects, with Tangmere Road to the west. The site is within the Tangmere Conservation Area with a single lime and sycamore tree to the eastern boundary protected under TPO 91/01021/TPO T59.

Surrounding Landscape

- 1.5 The site is fairly central within the residential area of Tangmere. The surroundings are suburban with largely arable farmland, glasshouses, pastures and parkland surrounding. Local areas of woodland are generally small. The A27 lies 250.0 m north.

Existing Site Vegetation

- 1.6 The site contains a small number of low and moderate value trees, including a large line of Leyland cypress to the east, and a number of scattered trees along the southern boundary, including apples, walnuts, cedars and spruces. Several trees on the eastern boundary are protected under TPO 91/01021/TPO T59.

2.0 Arboricultural Impact Assessment

Removal of Trees

- 2.1 Of the existing trees, 10no. low value trees, 2no. moderate value trees and a single unviable tree would require removal to accommodate the proposals. A Tree Works Application has previously been submitted to remove the Leyland cypress treeline. The removal is a relatively large proportion of the vegetation on-site; however, the trees are semi-mature garden trees offering limited value beyond the site. T19, T20, T21 and T22 are visible from the roadside appearing between the houses on Tangmere Road; looking down the drive from the access, shrubbery provides the majority of screening. T19 and T20 are retained and the other trees could adequately be replaced with new native trees to result in an ecology gain. In the longer term the visual value would also be replaced.

Disturbance to Roots and Rooting Environment

- 2.2 The proposed new dwelling would not encroach into any RPAs. The existing driveway would be extended to north (to serve the existing dwelling and parking) and south (to serve the new dwelling. This would encroach into the RPAs of T19, T20 and T23, which might result in harm to the trees and lost of rooting area, should specialist measures not be used. Such surfacing would be relatively shallow and could be constructed using a porous 'no-dig' solution to ensure no harm to roots and the continued suitability of the soil beneath for rooting. This area would require construction using no-dig geocellular confinement systems, built on-top of the existing ground following careful clearance of turf layers. The new parking should either be loose gravel in a retention system such as Golpla Grids, or a porous solid solution such as resin-bound gravel. The proposed encroachment appears to be over the 20% usually recommended as a maximum, but given the relatively shallow construction required and life stage of the trees, is considered achievable.
- 2.3 A small shed requires demolition on the edge of a moderate value RPA. In the absence of mitigation, incautious demolition might damage roots and branches above. A careful, 'Top-down, pull-back' method shall be used to minimise risk of harm.

Construction in Proximity to Trees and Hedges

- 2.4 The construction works would bring the built form closer to several existing trees, but the trees are already garden trees and the increase in pressure on the trees would be minimal. Access would be required over RPAs along the driveway to construct the dwelling and surrounding hard landscape. In the absence of mitigation vehicular access would potentially crush roots and harm trees. Appropriate ground protection measures should be utilized in these areas to allow temporary access over RPAs. This might be in the form of the proposed 'no-dig' construction but, if larger vehicles are required, is likely to require additional protection on top of this.
- 2.5 To protect trees from vehicular collision and damage to RPAs outside of the operation zones, Tree Protection Barriers will be installed surrounding the existing hard surfaces in proximity to trees.

Further Protection Measures

- 2.6 If any new surface water drainage is required, such as soakaways or French drains, these should be designed to avoid all RPAs. There is ample room in the south of the site for such drainage.
- 2.7 Any other new services required should be routed outside of RPAs and using existing runs where possible. It is likely that such runs will come along the driveway and can avoid all RPAs.

Replacement Planting

- 2.8 New native hedge and tree planting will be incorporated into design, including a new hedge along the eastern boundary with interspersed trees. A hedge should also be planted along the southern boundary. New tree planting is also proposed between the two driveways. Species should be natives such as field maple, wild cherry, hawthorn, crab apple, and should include several larger trees such as limes. This should ultimately result in an ecological and Arboricultural gain.

Summary of Impacts

- 2.9 Overall, the proposals require removal of a number of garden trees, of low-moderate value. The proposals present a moderate risk of harm to several low and moderate value trees; this risk can be avoided through protection measures and supervision of works such as craning in of the pod. The proposals are therefore supportable.

3.0 Arboricultural Method Statement

Site Movements, Storage and Compound

- 3.1 No vehicular or pedestrian movements shall be permitted during construction over unmade ground within RPAs. The site storage, waste and compound areas must be located either within existing hard surfaces or outside of tree RPAs. Fuel and chemicals shall be stored in appropriate containers to prevent spillage into unmade ground. All site movements, storage and compound shall seek to protect trees during construction in accordance with BS 5837:2012 – *Trees in Relation to Design, Demolition and Construction – Recommendations*.

Tree Protective Fencing

- 3.2 The RPAs of trees to be retained shall be protected through the installation of tree protective fencing to the outside of the root protection area. The installed protective barriers shall be 2.0 metres minimum height 'Heras' Welded Wire Mesh Fencing secured to a scaffolding framework, set into the existing ground, and positioned to the outside edge of the existing Tree Root Protection Area. Where existing ground conditions do not allow for the above method, the Welded Wire Mesh Fencing Panels may be mounted on concrete or rubber feet, supported on the inner side with stabilizer struts fixed on a block tray or secured with ground pins; and positioned as specified. The fencing should be strained, and fixed to fences, walls, knee rails where possible to provide a complete protected area (*refer to Figure 2 and Figure 3 below; © British Standards Institute 2012*). All tree protection to be in accordance with BS 5837: 2012 - *Trees in Relation to Design, Demolition and Construction - Recommendations* set out as specified within figures 2 and 3 below.
- 3.3 In locations where no construction is being undertaken, but there is a risk of inappropriate storage or vehicle parking, exclusion zones shall be created through the use of barrier tape, traffic bollards or low level traffic barriers. Such measures shall be pinned down to prevent easy removal.
- 3.4 Signs shall be affixed to the barriers stating '*Tree Protection Zone – No Access*' in addition to day-glo tapes to the top of the fencing, in accordance with BS 5837:2012 – '*Trees in Relation to Design, Demolition and Construction – Recommendations*'. Within the protected area, no construction activities shall be permitted, to include:
- *Lighting of fires*
 - *Storage of chemicals or building materials*
 - *Dumping of spoil or rubbish*
 - *Driving of vehicles*
 - *Alteration of soil levels.*

Figure 2 Default specification for protective barrier

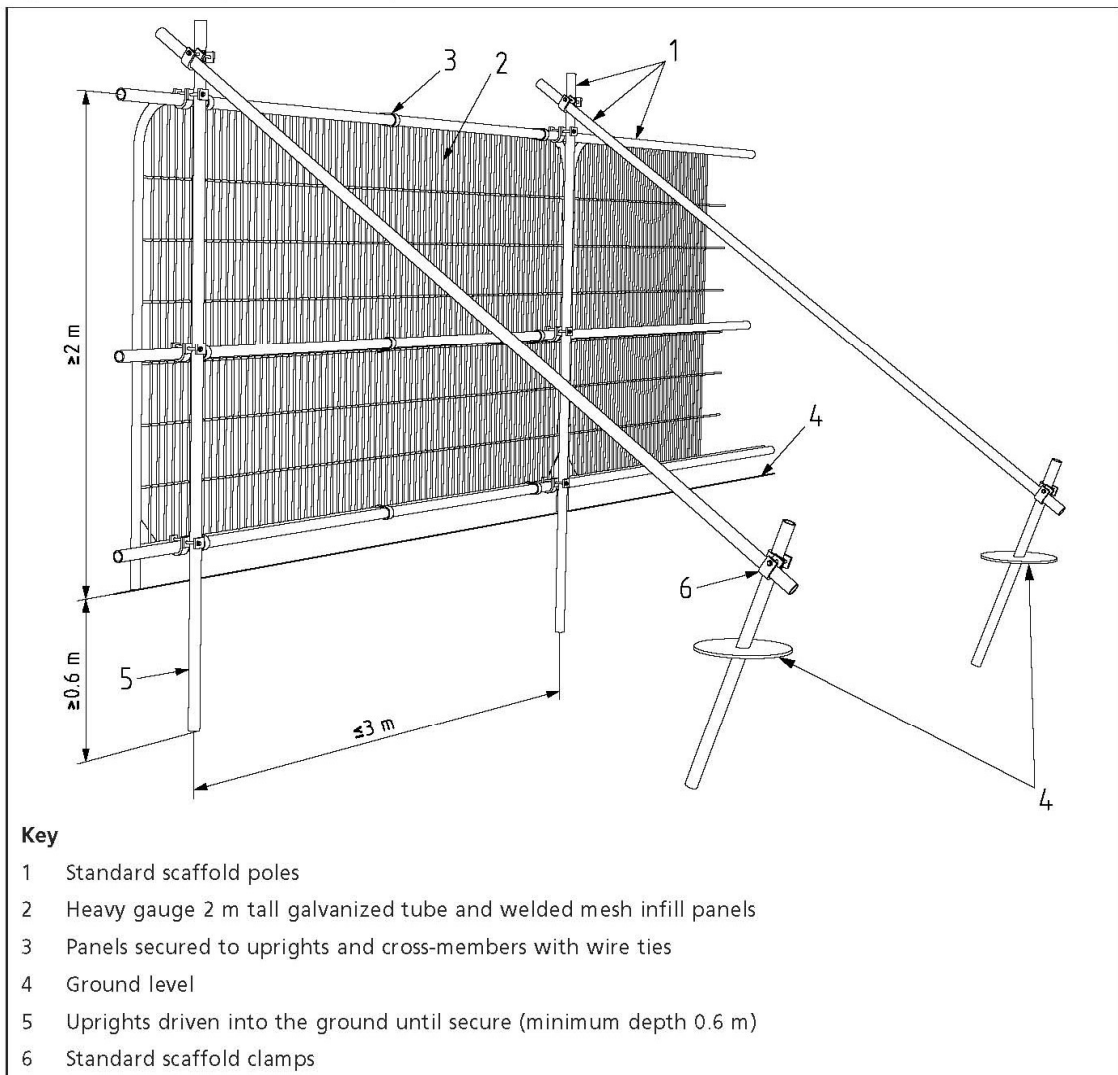
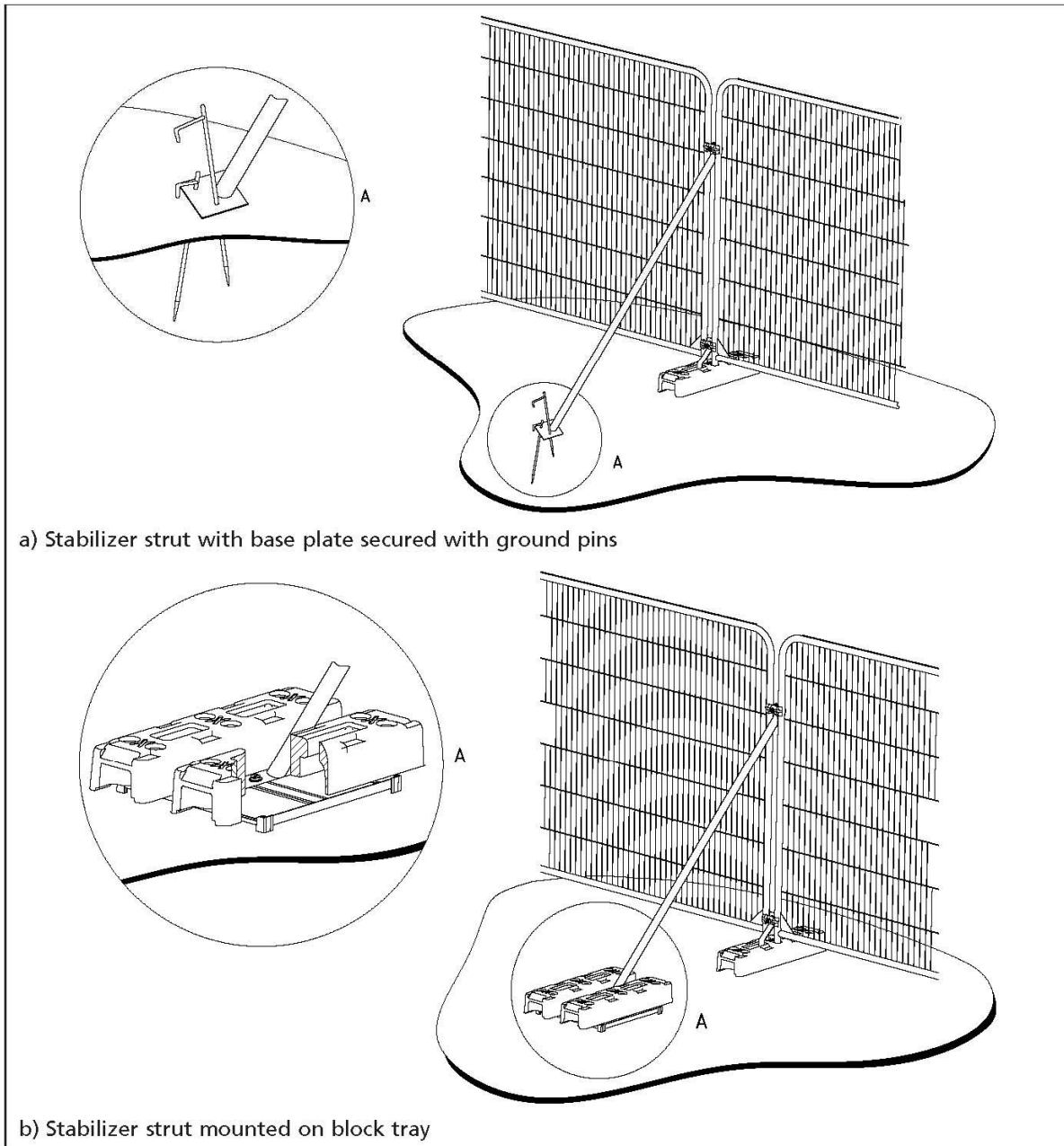


Figure 3 Examples of above-ground stabilizing systems



a) Stabilizer strut with base plate secured with ground pins

b) Stabilizer strut mounted on block tray

- 3.5 Tree protective barriers shall be installed and maintained throughout the construction phase by the main contractor, who shall be responsible for ensuring the fencing remains in place and is properly maintained. The fencing shall be installed in accordance with the *Tree Retention and Protection Plan*. Adjustment or relocation of the fencing during the construction phase shall be undertaken only following prior agreement by the arboriculturalist.
- 3.6 Wherever possible, tree protective fencing shall surround the entirety of the tree RPA. Where this is not possible, ground protection measures shall be utilised within designated operation zones to prevent damage to roots or compaction of soil. The locations of tree protective fencing and ground protection measures are detailed within the *Tree Retention and Protection Plan*.

Ground Protection Within RPAs

- 3.7 Where vehicular access is required over the soft ground of an RPA, ground protection measures shall be installed to ensure no compaction occurs. The appropriate construction shall be determined by the engineer, supplier or contractor and approved by the arboriculturalist. Ground protection must be fit for the purpose of supporting the level of traffic entering or using the site within RPAs without being distorted or causing compaction of underlying soil. The appropriate solutions include:
- *For pedestrian movements or the erection of scaffolding within the RPA – single layer of scaffold boards either on top of a driven scaffold frame, to form a suspended walkway, or on top of a compression-resistant layer, e.g. 100 mm depth of woodchip laid onto a geotextile;*
 - *For pedestrian-operated plant (up to a gross weight of 2 t) – proprietary, inter-linked ground protection boards or panels laid on top of a compression-resistant layer, e.g. 150 mm depth of woodchip laid onto a geotextile membrane;*
 - *For vehicular access (exceeding a gross weight of 2 t) – an alternative system subject to engineer's specification appropriate for expected loads, designed in consultation with the project Landscape/ Arboricultural Architect.*
- 3.8 The surface material shall be contained with edging type requiring no excavation. Where proposed levels of any new access routes do not ascertain minimum required depth for installation of traditional kerbs, other solutions should be sought:
- *- Timber edging boards and spikes would be considered appropriate for pathways;*
 - *Timber sleepers should be used as a kerb edge restraint for vehicular areas and anchored with non-intrusive pinning (such as road pins) in order to maintain the existing levels within the specified Root Protection Areas.*

New Surfacing within RPAs

- 3.9 Where new surfacing is required within RPAs, the turf layer shall be scraped back to soil, and then a geotextile laid to form the base of the gravel drive. A cellular confinement layer shall be installed filled with open-graded aggregate, above which appropriate and permeable bedding and wearing layers shall be installed, subject to an engineer's specification to be approved by the arboriculturalist. Such construction would require supervision or regular checks by the arboriculturalist to ensure the construction proceeds as proposed.
- 3.10 In places some minor excavation will be necessary to allow tying in of levels of surfaces and construction of no-dig surfaces; such excavation shall be undertaken manually under arboricultural supervision to minimise damage to roots. Any significant roots shall not be cut unless so directed by the arboriculturalist; any such roots shall be recorded, cut cleanly and the ends wrapped in dry hessian. Should roots likely to be significant to the vitality of any tree be found, these shall be wrapped, retained and incorporated into the surface wherever possible, with bridges formed over the root or footings adjusted to allow it to remain and grow further.
- 3.11 The arboriculturalist shall confirm the appropriate measures have been undertaken either through supervision or photographic evidence.

Demolition within RPAs

- 3.12 Where demolition is required within RPAs, this shall be supervised to look for any significant roots beneath the surfaces and structures; wherever possible, existing foundations shall be left in-situ and the building demolished using a 'top-down, pull-back' method to minimise harm. Solid surfaces can be broken up using a hand-operated breaker, taking care to stop as soon as the surface is broken. The arisings and any loose materials such as paving slabs beneath must be manually lifted and taken away. Any such areas must be covered with new surface or topsoil.
- 3.13 Any significant roots shall not be cut unless so directed by the arboriculturalist; any such roots shall be recorded, cut cleanly and the ends wrapped in dry hessian. Should roots likely to be significant to the vitality of any tree be found, these shall be wrapped, retained and incorporated into the ground.

Vegetation Removal

- 3.14 All remaining tree surgery works (i.e. stump removal) shall be undertaken in accordance with BS3998:2010 – Tree Works: Recommendations. Stumps shall either be stumpground or carefully pulled up and away from trees, taking care to check for larger entangled tree roots and cutting the stump away from these. Log piles shall be created in the site from the arisings to create new habitat.

Installation of Services

- 3.15 Wherever possible, the proposals utilise existing service routes. Any new drainage shall be sited outside of the RPAs of any trees. The new drainage shall be sited so as to be as far as possible from any tree stems.

- 3.16 Where the proposed routing of other new services such as electrical wiring impinges upon the tree RPA of any existing tree to be retained; the routing should be undertaken as a minimum standard in accordance with *NJUG Volume 4, issue 2: 'Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees'*. A 'Manual Excavation Method' to be followed to carefully hand dug and route the apparatus most directly to and from the exterior of the RPA radius. Services are to be sleeved to ensure protection of the services and surrounding roots.