



LIZARD

Landscape Design and Ecology

ROFFEY HOMES LTD

MANOR NURSERY, ANGMERING, WEST SUSSEX

Arboricultural Impact Assessment and Method Statement

Tree Retention and Protection

Planning Issue

Prepared by	GS
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Date	14 th March 2018
Document Reference	LLD1275-ARB-REP-001
Revision	02

**MANOR NURSERY, ANGMERING, WEST SUSSEX
RESIDENTIAL DEVELOPMENT PROPOSALS –
ARBORICULTURAL METHOD STATEMENT
Planning Issue - Rev 02; 14.03.18**

1.0 INTRODUCTION

- 1.1 Lizard Landscape Design and Ecology has been commissioned by Roffey Homes Ltd to undertake a detailed tree survey and arboricultural impact assessment of the land proposed for alteration at Manor Nursery, Angmering, West Sussex (*Grid Reference: TQ 076 042 – hereafter referred to as 'the site'*).
- 1.2 The site consists of a former nursery and garden centre. The majority of the buildings, grow beds and glasshouses on the site have been demolished. This has resulted in large areas of hard surface, and bare ground now colonised by tall ruderal and scattered scrub vegetation. The boundaries are lined with mature introduced shrubs, dense scrub, and trees. The site is fenced to other aspects and is fully enclosed. Soils on site are described as *freely draining, slightly acid loamy soils*.
- 1.3 The site is located to the east of the village of Angmering, which itself is in an agricultural setting just north of the A27, and outside of the heavily built-up coastal plain. The local area contains a mixture of land uses, dominated by arable agriculture to the east and north, and residential areas to the west and further south. The site is approximately 2.7 km from the coastline.
- 1.4 The current proposals reflected within this report are for the Approval of Layout, Scale, Appearance and Landscaping Reserved Matters following outline approval ref: *A/51/14/OUT* at Manor Nursery Garden Centre High Street Angmering BN16 4AW. The development proposals consist of the construction of a residential development of 32 no. dwellings within the site. Dwellings would be of a style commensurate with other local residential dwellings and would be a mixture of 2-bed, 3-bed, 4-bed and 5-bed dwellings. The dwellings would be accompanied by associated hard landscape access road and footpaths, soft landscape areas and gardens.
- 1.5 The vegetation present within the site consists largely of overgrown ornamental shrubs, dense scrub, ornamental coniferous treelines, and small self-seeded native trees. Several larger ornamental trees are present at the site entrance. The site is bounded to the east by native hedge and treelines; to the south by a fence and new housing development; to the west by overgrown shrub borders and trees, and to the north by coniferous treelines. Outside of the site to the north are several mature, native trees.
- 1.6 The overgrown shrubs and scrub are proposed for removal to accommodate the design proposals. The northern boundary treeline is proposed for removal and replacement. The trees present to the site entrance are proposed for removal to accommodate the design proposals. A small number of trees within the site, and along the western boundary are proposed for removal. The trees and shrubs proposed for removal are all of low quality and value; their loss would be compensated for through the planting of replacement trees and shrubs, as shall be detailed within the development final landscape scheme. All other trees, including the remaining boundary vegetation (*the majority of which is located within adjacent properties*), would be retained and protected through the proposals and throughout the construction phase in accordance with the guidance contained within *BS 5837: 2012 – 'Trees in Relation to Design, Demolition and Construction – Recommendations'*.

- 1.7 The existing trees within and surrounding the proposal boundary have been surveyed in detail for condition and are recorded within the attached report; *LLD1275-ARB-SCH-001-ETS – Existing Tree Schedule and Schedule of Tree Works*; and identified on the following drawings; *LLD1275-ARB-DWG-001-TRPP – Tree Constraints Plan* and *LLD1275-ARB-DWG-002-TRPP – Tree Retention and Protection Plan*. The Tree Retention and Protection Plan illustrates the impact of the proposed development upon the existing trees and setting out where vegetation is proposed to be removed and specifically measures for tree and root protection wherever existing trees and vegetation are proposed to be retained and protected.
- 1.8 The status, impact, and protective measures upon the existing trees and vegetation within the site affected by the development proposals are subject to the protective measures and construction method statement detailed in the following Arboricultural Method Statement.

2.0 ARBORICULTURAL IMPACT ASSESSMENT

- 2.1 The current proposals reflected within this report are for the Approval of Layout, Scale, Appearance and Landscaping Reserved Matters following outline approval ref: *A/51/14/OUT* at Manor Nursery Garden Centre High Street Angmering BN16 4AW. The development proposals consist of the construction of a residential development of 32 no. dwellings within the site. Dwellings would be of a style commensurate with other local residential dwellings and would be a mixture of 2-bed, 3-bed, 4-bed and 5-bed dwellings. The dwellings would be accompanied by associated hard landscape access road and footpaths, soft landscape areas and gardens.
- 2.2 The vegetation present within the site consists largely of overgrown ornamental shrubs, dense scrub, ornamental coniferous treelines, and small self-seeded native trees. Several larger ornamental trees are present at the site entrance. The site is bounded to the east by native hedge and treelines; to the south by a fence and new housing development; to the west by overgrown shrub borders and trees, and to the north by coniferous treelines. Outside of the site to the north are several mature, native trees.
- 2.3 The overgrown shrubs and scrub are proposed for removal to accommodate the design proposals. The northern boundary treeline is proposed for removal and replacement. The trees present to the site entrance are proposed for removal to accommodate the design proposals. A small number of trees within the site, and along the western boundary are proposed for removal. The trees and shrubs proposed for removal are all of low quality and value; their loss would be compensated for through the planting of replacement trees and shrubs, as shall be detailed within the development final landscape scheme. All other trees, including the remaining boundary vegetation (*the majority of which is located within adjacent properties*), would be retained and protected through the proposals and throughout the construction phase in accordance with the guidance contained within *BS 5837: 2012 – ‘Trees in Relation to Design, Demolition and Construction – Recommendations’*.

- 2.4 The following trees would require removal to accommodate the construction of the proposed dwellings and hard landscape areas:
- TL 02 – *Cupressus* sp.; Category C; within site to north;
 - T 03 – *Cupressus* sp.; Category C; To northern boundary of site;
 - T 04 – *Chamaecyparis lawsoniana*; Category C; within site to north;
 - T 05 – *Cupressus* sp.; Category C; within site to north;
 - T 06 – *Catalpa bignonioides*; Category C; within site to north;
 - T 12 – *Acer pseudoplatanus*; Category C; within site to south-east;
 - SH 13 – Mixed Species Scrub; Category C; within site to south-east and along southern boundary;
 - TG 17 – *Crataegus monogyna*; Category C; to western boundary;
 - T 18 – *Prunus cerasifera*; Category C; within site to west;
 - SH 23 – Ornamental Shrubs; Category C; within site and to site boundaries.
- 2.5 The following trees and shrubs are proposed for removal to accommodate alteration of the existing site entrance, to create new open space within the site, and to allow new planting of a more appropriate scale and type:
- TL 01 – *Crataegus monogyna*; *Fagus sylvatica*; Category C; to north-east of site;
 - T 03 – *Cupressus* sp.; Category C; To site entrance, north-western corner of site;
 - T 21 – *Prunus* sp.; Category C; To site entrance, north-western corner of site;
 - T 22 – *Catalpa bignonioides*; Category C; To site entrance, north-western corner of site;
 - SH 27 – Native Understorey Shrubs; Category C; To site entrance, north-western corner of site;
- 2.6 The proposed removal of trees and treelines along the northern boundary would open up the boundary with the adjacent road and path. The removal of vegetation would be compensated through the planting of native shrub vegetation to the western section of the boundary. The eastern section would remain free of vegetation, with only a fence marking the boundary. This would make the site entrance and adjacent road and path lighter and more open. This would have the effect of allowing the native understorey shrubs and trees to grow further, creating an improved wildlife habitat. None of the trees proposed for removal are of any arboricultural note or wildlife potential. The trees outside of the northern boundary (including mature native trees covered by TPO) would be retained and protected through the proposals.
- 2.7 The trees and shrubs within the site are proposed for removal. The vegetation consists of overgrown ornamental shrubs, and self-seeded native trees which have grown up since the closure of the nursery. The vegetation is of no arboricultural or amenity value. The vegetation offers some value to invertebrates and nesting birds only. The vegetation lost shall be compensated for through the planting of a large number of trees within gardens, and the planting of native trees, shrubs and hedges to the site boundaries.
- 2.8 Several hard surface access roads encroach slightly into the RPAs of low-value trees growing along the eastern fenceline. These trees are generally on or outside of the site boundary and are therefore proposed for removal. Manual excavation is proposed for construction works within the RPAs of these trees, to minimise harm to roots present there. Crown reductions are proposed to reduce overhang of vegetation into the site and allow construction access. The trees would continue to provide a boundary feature.

- 2.9 The overgrown ornamental shrubs, and a small number of trees along the western boundary are proposed for removal. The loss of these trees would be compensated for through the planting of new trees within gardens along the western boundary. The proposals would alter the boundary vegetation from that of continuous shrubs and scrub, with several emergent trees into one of a row of a line of standard trees. This would create more open space within the site. The boundary is lined to the outside by a row of recently planted cypress trees, a fence and a cypress hedge. The loss of screening would therefore not significantly alter the boundary as viewed from outside the site. Trees planted along this boundary would need to provide some ecological value to compensate for the loss of invertebrate and bird habitat.
- 2.10 The following trees would require tree surgery works to allow construction access without risk of harm to trees:
- T 09 – *Salix caprea*; Category C; to eastern boundary of site; crown-reduction of up to 2.7 m to the south-west;
 - TG 10 – *Acer pseudoplatanus*; Category C; to eastern boundary of site; crown-reduction of up to 1.5 m to the south-west.
- 2.11 The above tree surgery works are mainly intended to allow safe construction access and would not result in loss of screening to the site. The remaining trees on the site are generally boundary features and located away from proposed dwellings; the proposals therefore, do not significantly increase the requirement for further tree surgery works beyond those already required by the existing buildings on-site. All tree work shall be undertaken by an approved and qualified Tree Surgeon in accordance with BS3998: 2010 – ‘Tree Work: Recommendations’.
- 2.12 Tree Protective Fencing constructed in accordance with BS 5837: 2012 - ‘Trees in Relation to Design, Demolition and Construction - Recommendations’ would be installed around all retained tree RPAs and canopies to ensure no harm befalls trees from site construction access or other construction activities such as materials storage. Along the eastern boundary, a metal security fence is already in place along the site boundary. This will take on the role of Tree Protective Fencing in places where the tree canopies and roots do not need further protection.
- 2.13 Replacement planting to compensate for loss of trees and shrubs should be detailed within the development scheme’s final landscape proposals and should be suited to the region and the location, providing ecological value particularly for birds and invertebrates. Species might include (for example): pedunculate oak (*Quercus robur*); field maple (*Acer campestre*); wild privet (*Ligustrum vulgare*); common hawthorn (*Crataegus monogyna*); rowan (*Sorbus aucuparia*); whitebeam (*Sorbus aria*); wild service tree (*Sorbus torminalis*); cherries (*Prunus spp.*); Willows (*Salix spp.*); hazel (*Corylus avellana*); elder (*Sambucus nigra*); silver birch (*Betula pendula*).

3.0 Stages of Work / Programme

- 3.1 The site development proposals shall involve the following site operations that could impact upon the existing tree / vegetation cover;
- Contractor movements; site access and operations; storage and compound;
 - Removal of trees and shrubs not for retention;
 - Demolition of existing hard surfaces and structures;
 - Construction of proposed new dwellings and hard surfaces;
 - Alteration of existing site access;
 - Implementation of services and utilities.

4.0 Arboricultural Method Statement

Contractor Movements; Site Access and Operations; Storage and Compound Areas

- 4.1 The contractor site compound shall be located outside of the defined tree root protection areas as indicated on drawing; *LLD1275-ARB-DWG-002-TRPP – Tree Retention and Protection Plan*.
- 4.2 The contractor's site compound shall be located so as to not incur damage or injury to the tree root systems or canopy of any existing trees or vegetation within or adjacent to the site, in accordance with *BS 5837: 2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'*. All operations associated with the usage of the compound area shall be undertaken with due care and attention so as to negate damage of the surrounding environment.
- 4.3 Pre-construction access to the site area shall be made at all times via the existing access point and main entrance from High Street to the north-west of the site. Pre-construction vehicular movement to facilitate the tree surgery works shall be limited to the minimum requirement in order to fulfil the tree surgery works and no vehicular access shall be permitted over unmade ground within the defined tree root protection area of existing trees to be retained and protected.
- 4.4 Once the tree removal and tree surgery works have been completed the tree protective fencing works proposed shall be put in place. During construction proposed access is via the existing access point and main entrance from High Street to the north-west of the site. Vehicular movements during the construction period shall be limited to the areas of existing hard ground and newly protected ground only.
- 4.5 All site clearance / demolition works shall be undertaken once the tree protective fencing measures have been put in place in order to protect existing tree canopies and tree root protection areas from vehicle movements and material storage.
- 4.6 All site operations and construction procedures for the duration of the construction period shall seek to protect the existing site vegetation and tree root protection areas in accordance with *BS 5837: 2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'*.

Removal of Existing Vegetation

- 4.7 Trees proposed for removal are detailed within this *Arboricultural Impact Assessment and Method Statement (LLD1275-ARB-REP-001-AIA)*; the *Existing Tree Schedule and Schedule of Tree Works (LLD1275-ARB-SCH-001-ETS)*; and the *Tree Retention and Protection Plan (LLD1275-ARB-DWG-002-TRPP)*. All tree work shall be carried out in accordance with *BS 5837: 2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'* and *BS3998: 2010 – 'Tree Work: Recommendations'*. Tree surgery works shall be undertaken prior to the erection of the Tree Protective Fencing. Care should be taken during the tree surgery process to avoid any damage to any trees which are designated to be retained and protected.
- 4.8 The removal of shrub or scrub material within the tree root protection area of any tree to be retained shall employ a manual removal method; the use of hand tools shall be used in order to maintain the ground surface of the tree root protection area and reduce any damage to existing tree roots within the protected tree root zone. Adjacent trees shall not be utilised as anchors or levers to facilitate the removal of adjacent vegetation.

Tree Surgery

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- 4.9 Tree surgery measures and works have been identified as necessary within the attached *LLD1275-ARB-SCH-001-ETS – Existing Tree Schedule and Schedule of Tree Works*. Any significant defects found in the trees during the course of the scheduled work shall be reported to the Landscape Architect / Arboricultural Consultant. Any arising tree work shall be undertaken by an approved and qualified Tree Surgeon in accordance with *BS3998: 2010 – 'Tree Work: Recommendations'*. Care should be taken to avoid damage to neighbouring trees to be retained. Branches in confined spaces shall be removed and taken down in sections. All arisings shall be transported and disposed of away from site to the contractor's tip. All tree surgery work is detailed within the attached *LLD1275-ARB-SCH-001-ETS – Existing Tree Schedule and Schedule of Tree Works* report.

Tree and Vegetation Management

- 4.10 For tree and vegetation retention and removal proposals refer to this *Arboricultural Impact Assessment and Method Statement*; the attached *LLD1275-ARB-SCH-001-ETS – Existing Tree Schedule and Schedule of Tree Works*, and the *LLD1275-ARB-DWG-002-TRPP – Tree Retention and Protection Plan*. For tree and vegetation management proposals refer to the tree surgery works, and management prescriptions contained within *LLD1275-ARB-SCH-001-ETS – Existing Tree Schedule and Schedule of Tree Works* and displayed on the *LLD1275-ARB-DWG-002-TRPP – Tree Retention and Protection Plan*.

Ongoing Inspection and Maintenance of Existing Vegetation

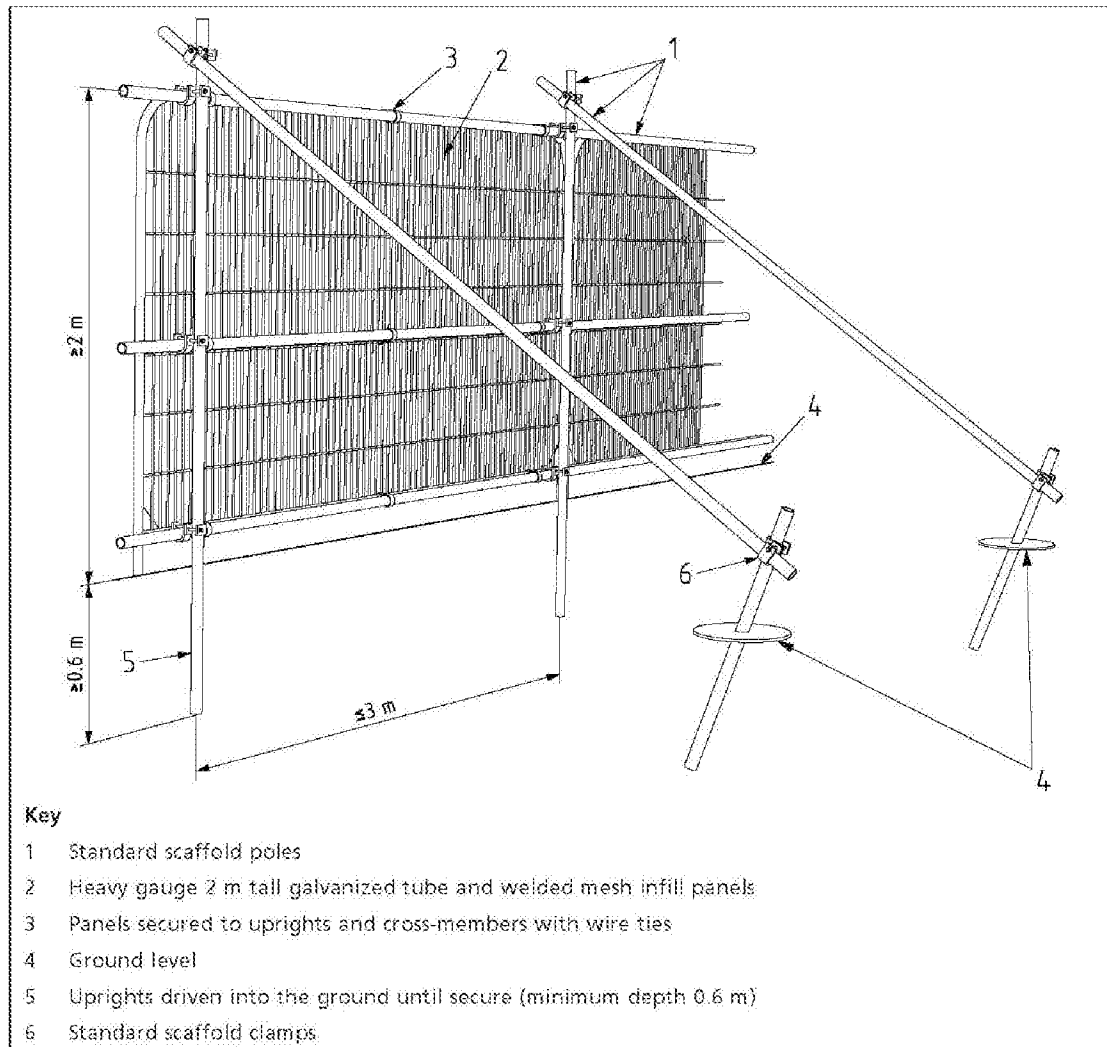
- 4.11 All retained vegetation on the site shall require ongoing regular inspection at a level deemed appropriate by the property owner. Any remedial works shall be undertaken as required to maintain trees in a safe and healthy state.

Protection and Retention of Existing Vegetation

- 4.12 The contractor shall exercise extreme care when performing operations beneath the canopy of existing mature trees and vegetation and within the specified tree root protection areas designated for protection and avoid at all times damage to the roots, trunk and branches of existing trees proposed to be retained.
- 4.13 All excavations, cultivation, and grading beneath the canopy of existing mature trees and within the specified tree root protection areas of the existing trees and vegetation shall be carried out using hand tools, taking care not to damage or disturb any existing tree roots.
- 4.14 All trees to be retained on site shall be protected with fencing erected around the area of mature vegetation in accordance with *BS5837: 2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'*. The fencing shall be installed, protected, and maintained during the main works by the contractor who shall be responsible for protecting any area beneath the canopy of the existing trees and within the specified tree root protection areas.
- 4.15 The installed protective fencing shall be 2.0 metres 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. The fencing should be strained, and fixed to fences, walls and knee rails where possible to provide a complete protected area (*Refer to Figure No. 2 and Figure No. 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 Drawing *LLD1275-ARB-DWG-002-TRPP – Tree Retention and Protection Plan*.

- 4.16 Day-glo ribbons shall be maintained during the main works by the contractor attached to the top of the fencing to ensure that the fencing is clearly visible during the works. The tree protection fencing shall display all-weather notices stating, 'Construction Exclusion Zone – NO ACCESS'.
- 4.17 All such fencing shall be maintained for the full contract period. All necessary excavations, earthworks, and cultivation beneath the canopy spread of any existing tree; shrub or hedge shall be undertaken by hand. No commencement of construction operations may occur prior to the inspection of the installed tree and ground protection by the Landscape Architect / Arboricultural Consultant. Repositioning of the protective fencing during the course of the contract as the contract works progress shall need prior agreement with the Landscape Architect / Arboricultural Consultant.
- 4.18 Within the protected area the following activities must not take place;
- *No vehicles are to be used in the fenced off areas;*
 - *No materials are to be stockpiled or stored;*
 - *No chemicals are to be stored;*
 - *No excavation or increase in the soil level shall occur;*
 - *No fires shall be lit on site.*
- 4.19 At the end of the contract period the contractor shall remove the tree protective fencing from the site. All retained vegetation shall be healthy and thriving at the handover date.

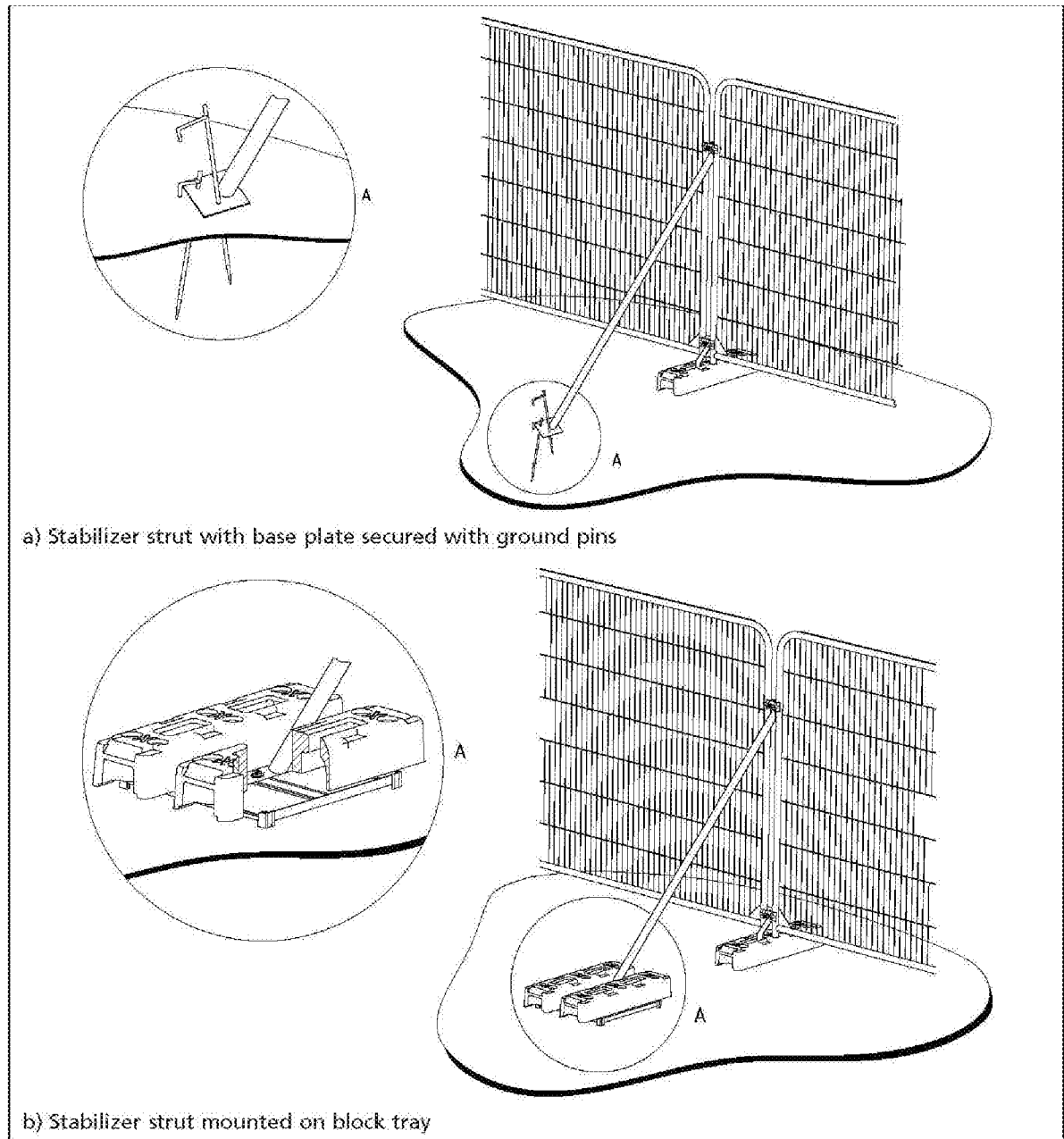
Figure 2 Default specification for protective barrier



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(Care should be taken to avoid damage to unseen tree roots and underground services; a secondary fencing support system may be implemented to accommodate these as outlined in Figure No. 3 below).

Figure 3 Examples of above-ground stabilizing systems



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Tree Protection Measures – Manual Excavation Zone

- 4.20 All excavation-related operations within proximity of nearby trees (*including removal and construction of hard surfaces*) shall be executed with due care and attention by hand and using hand-held tools only, in order not to disturb exposed unmade ground and any existing tree roots present within it. Existing wearing layers and hard materials inimical to root growth can be removed using light machinery, but unconsolidated layers must be removed by hand within the tree RPAs. Any removal of hard surfaces shall be carried out from the existing hard surfaces or newly-protected ground only, and in a direction away from trees, to minimise the risk of materials falling onto trees and damaging bark.
- 4.21 Roots over 25 mm diameter or those occurring in clumps must not be severed without Arboricultural advice. Roots below such size may be cut cleanly using specialised hand tools only and to the minimum extent to allow provision.
- 4.22 All exposed roots should be immediately wrapped in dry Hessian to avoid drying. On completion of the excavation and at the earliest opportunity the wrapping should be removed, and the roots surrounded and protected with a loose granular fill (*clean washed sharp sand or topsoil free of contaminants or matter injurious to rooting systems*) prior to backfilling the excavation to the desired levels.
- 4.23 New hard surface construction within tree RPAs shall be of the minimum practical depth, to minimise harm to existing tree roots.
- 4.24 **Heras – Anti-climb Smart Weld Panel Fencing**
Supplier: Safe Site Facilities; or equal and approved;
Address: Old Selden Farm, Selden Lane, Patching, West Sussex, BN13 3UL
Tel: 0845 463 5421; Email: info@safesitefacilities.co.uk;
Web: www.safesitefacilities.co.uk;
Specifications: Galvanised anti-climb mesh; 2.0m height x 3.5m width; 13.8kg weight.

5.0 Arboricultural Method Statement – Notes; General

- 5.1 The principles and recommendations of *BS5837: 2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'* shall be adhered to where possible in order to prevent damage or undue stress upon the existing trees, soils and roots potentially impacted upon by the development proposals.
- 5.2 Destruction of soil structures through soil compaction, excavation or contamination shall be avoided at all times within the tree root protection areas. Physical damage to existing trees to be retained; roots, stems, branches shall be prevented wherever possible.
- 5.3 All tree protection measures are to be carried out, on site and within the development proposals, in accordance with the relevant approved drawings accompanying this method statement.
- 5.4 Phasing of the construction works should be considered to minimise the requirement for ground protection and avoid vehicular movements over unmade ground.

- 5.5 Existing service runs should always be used wherever possible. Where the proposed routing of services impinges upon the root protection area of any existing tree to be retained, the routing shall be undertaken in accordance with a manual excavation method; to be carefully hand dug and routed most directly to and from the exterior of the tree root protection area radius. Services are to be trenched and routed together wherever possible to create the minimum impact upon the tree roots of the existing trees to be retained. Trench excavation across the tree root protection area radius beside an existing tree shall be avoided, whereby tree roots will become severed. Where services are to cross the edge of an existing tree root protection area, they should be routed through existing tree roots, via a hand dug ducting sleeve, avoiding damage to existing tree roots within the root protection zone.
- 5.6 Arboricultural Supervision shall be required at the following stages of work;
- *Installation of tree protection measures;*
 - *Method statement briefing for site staff;*
 - *Supervision of manual excavation of existing hard surfaces within tree RPAs;*
 - *Supervision of manual excavation of new hard surfaces within tree RPAs;*
 - *Removal of tree protection measures.*
- 5.7 The loss through development of existing trees may occasionally be unavoidable. Wherever existing trees are removed to accommodate development, contingency should be made for relocation of removed trees if possible or the replanting of young trees with suitable species for the site location where relocation of existing trees is not viable. Replacement planting should be detailed within the development scheme's final landscape proposals and should be suited to the region and the school location – this might include (*for example*) pedunculate oak (*Quercus robur*); field maple (*Acer campestre*); common hawthorn (*Crataegus monogyna*); rowan (*Sorbus aucuparia*); whitebeam (*Sorbus aria*); wild service tree (*Sorbus torminalis*); wild cherry (*Prunus avium*); hornbeam (*Carpinus betulus*); alder (*Alnus glutinosa*); silver birch (*Betula pendula*).
- 5.8 The phasing of works might be appropriate in order to implement the proposed development. Where the construction operations impact upon existing trees to be retained the trees shall be fully protected where possible in accordance with *BS 5837: 2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'* for the duration of the construction period. The phased retraction of construction operations may allow for tree protection measures to be withdrawn / re-sited. The re-alignment or withdrawal of any Tree Protection Measure shall only be permitted with the agreement of the Project Arboricultural Consultant / Local Planning Authority.

6.0 Contact Details

Arboricultural Consultant

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