



ERIC WALL (HOLDINGS) LTD.

**LAND AT LONGACRE,
YAPTON, WEST SUSSEX**

**ARBORICULTURAL IMPACT ASSESSMENT
TREE PROTECTION – METHOD STATEMENT**

Approved By: Joe Jackson
Signed:
Position: Principal
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ARBORICULTURAL IMPACT ASSESSMENT – METHOD STATEMENT LAND AT LONGACRE – YAPTON, WEST SUSSEX

1.0 INTRODUCTION

- 1.01 The proposed development of the land at Longacre comprises the construction of a horticultural greenhouse and irrigation reservoir with supporting access road on land situated to the south of the 'Mainline West' railway line to the north-west edge of Yapton. The development is proposed on currently existing farmland that consists of a single arable field.
- 1.02 The proposed horticultural development is to be contained within the existing site boundaries along with a new access road adjoining Maypole Lane to the south-east of the site. There will be some impact upon areas of the site vegetation; including existing trees.
- 1.03 The site holds a limited number of habitats with existing vegetation being held to the boundaries, including single and mixed species tree lines, mixed-species scattered trees and boundary tree groups. Tree vegetation is supported additionally with native mixed-species understorey scrub / hedgelines. Tree and supported vegetation is limited, being held only to the site boundaries. Vegetation exists running primarily to the south-east, south-west and north-west boundaries with the northern boundary being devoid of any vegetation. All of the trees are proposed to be retained and protected within the development scheme. The existing trees within the boundary of the Land at Longacre development site are recorded within *LLD808 – Existing Tree Schedule* and shown on drawings *LLD808 / 01 – Tree Constraints Plan*. The initial impact of the proposed development on the existing trees and vegetation has been indicated within drawings *LLD808 / 02 – Tree Retention and Protection Plan*. The Tree Retention and Protection plan illustrates the impact of the development upon the existing trees and sets out where vegetation is to be removed and specific measures for protection wherever existing trees and vegetation are to be retained.
- Outline Proposals**
- 1.04 The proposals comprise a main vehicular access point to the adjacent highway of Maypole Lane to the eastern corner of the site. The main access road would follow the line of the eastern boundary before running on an east-west axis across the site connecting to the proposed greenhouse. The horticultural greenhouse is proposed to be located to the north-west corner of the site measuring a footprint of 243.0 metres x 148.0 metres and is sought to be supported by a proposed energy store and cold store with staff facilities located adjacent to the north east and east of the glasshouse. A reservoir for the irrigation of the greenhouse is proposed to be located to the north-east corner of the development site and would provide a total storage capacity for irrigation and flood storage of 41,000 cubic metres. Two existing public rights of way footpaths, which run north / south centrally through the site and diagonally from the south-east corner to the north of the site, are proposed to be retained. To the boundaries of the development the retention of existing woodland and boundary vegetation is proposed. Existing vegetation of the development would be further supported through ecological buffer planting to the development boundaries formed of native species tree group / tree line and scattered tree planting supported by native mixed-species understorey shrub and hedgerow planting. The development would not require the removal of any trees to implement the proposals.

- 1.05 There are a number of existing trees and vegetation within the vicinity of the development site that would remain to be directly impacted upon by the development proposals and are to be protected in accordance with the guidance of *BS 5837:2012 – ‘Trees in Relation to Design, Demolition and Construction – Recommendations’*. The status, impact and protective measures upon existing trees and vegetation within the site are subject to the protective measures detailed in the following.

Drawings and Reports

- 1.06 The Tree Retention and Protection Proposals comprise the following;
LLD808 / 01 – Tree Constraints Plan;
LLD808 / 02 – Tree Retention and Protection Plan;
LLD808 – Existing Tree Schedule;
LLD808 – Arboricultural Impact Assessment and Method Statement.

2.0 Arboricultural Impact Assessment

- 2.01 The proposals comprise a horticultural development consisting of a single glasshouse with supporting energy centre and staff facilities to the north west of the site; a reservoir to the north east corner of the development area and a single vehicular access road situated to the southern boundary. All trees shall be retained within the proposed scheme, with the proposals affecting a small number of the existing trees on site and shall require detailed protection to enable their retention within the proposed scheme. All existing trees to be retained shall be protected in accordance with *BS 5837:2012 – ‘Trees in Relation to Design, Demolition and Construction – Recommendations’*.
- 2.02 The following trees and vegetation shall require tree surgery works in order to accommodate the development proposals.
- TL 06 – *Populus nigra* ‘Italica’ - Category C; (*Tree line is of reduced longevity as a result of wounding and should be periodically monitored to reduce associated risk of collapse*);
 - T 11 – *Quercus robur* - Category C; (*Removal of deadwood held within the tree canopy*);
 - T 12 – *Quercus robur* - Category C; (*Removal of deadwood held within the tree canopy*);
 - T 13 – *Quercus robur* - Category C; (*Removal of deadwood held within the tree canopy*);
 - T 14 – *Quercus robur* - Category B; (*Removal of deadwood held within the tree canopy*);
 - T 19 – *Salix x sepulcralis* - Category U; (*Due to poor condition tree should be monitored with the view to future removal*);
 - TL 21 (ii) – *Acer pseudoplatanus* - Category U; (*Tree is situated in adjacent land and due to poor condition any required tree surgery work / removal should be subject to prior agreement with the land owner*);
 - TL 21 (ix) – *Fraxinus excelsior* - Category U; (*Tree is situated in adjacent land and due to poor condition any required tree surgery work / removal should be subject to prior agreement with the land owner*);
 - TL 21 (x) – *Acer pseudoplatanus* - Category U; (*Tree is situated in adjacent land and due to poor condition any required tree surgery work / removal should be subject to prior agreement with the land owner*).
- 2.03 The development proposals shall impact upon a number of trees proposed to be retained. The trees shall require protection measures to be implemented in accordance with the guidance of *BS 5837:2012* to enable their useful retention.

- 2.04 A new access road is proposed to the eastern boundary of the development site with Maypole Lane. The proposed access road impacts upon the root protection areas of all trees within mixed-species tree line *TG21* and partially within the RPA of *T05 – Ulmus glabra* and shall be protected in accordance with the guidance of *BS 5837:2012* and detailed as illustrated within drawing *LLD 808/02 – Tree Retention and Protection Plan*. A protection measure of *'No-Dig' Construction Method* is sought for where the access road impacts on the RPAs of tree line *TG21* and isolated tree *T05*.
- 2.05 The development proposals would potentially have impact upon other trees and vegetation to be retained within the site boundaries. *Tree Protection Fencing* shall be implemented to create a barrier protection within which no construction access or activity is permitted. The fencing mitigation proposals would be applied to all vegetation to be retained, as set out within drawing *LLD725 / 02 – Tree Retention and Protection Plan*.

3.0 Stages of Work / Programme

- 3.01 The development proposals shall involve the following site operations that shall impact upon the existing trees;
- *Contractor movements; site access and operations; storage and compound;*
 - *Removal of existing vegetation not for retention;*
 - *Installation of construction elements; ground work / general site operations;*
 - *Removal of protective measures;*
- 3.02 The supervision of work stages and periodic attendance of an Arboricultural Consultancy should be undertaken as part of any approved development scheme by the Local Planning Authority. Lizard Landscape Design could be appointed to act as Arboricultural Consultants in order to implement a Programme of Works and monitor progress of works on site.
- 3.03 Site attendance shall be arranged with all parties and undertaken with the agreement of the local planning authority within any given permission for the scheme.
- 3.04 The key stages of work outlined for site attendance are as follows;
- *Pre-commencement meeting;*
 - *Installation of Tree Protection measures;*
 - *Method Statement briefing for site staff;*
 - *Removal of Tree Protection measures.*

4.0 Arboricultural Method Statement

Protection and Retention of Existing Habitats – Tree Groups / Scattered Trees

4.01 The contractor shall exercise extreme care when performing operations beneath the canopy of existing mature trees and vegetation designated for protection and avoid at all times damage to the roots, trunk and branches. The contractor shall train all members of the construction workforce operating within the proximity of valued habitats and make such persons aware that there shall not be, without having sought prior notification, generally the following operations undertaken within the Root Protection Areas:

- Dumping of spoil or rubbish, excavation or disturbance of topsoil, parking of vehicles or plant, storing of materials or placing of temporary accommodation within an area which is the larger of the branch spread of the tree or an area with a radius of half the tree's height, measured from the trunk, and within the specified Root Protection Areas.
- Roots exceeding 25 mm in diameter must not be severed. If unintentionally severed; notice shall be given and specialist arboricultural advice sought.
- Changes to the level of the ground within the specified RPAs.

Contractor Movements; Site Access and Operations; Storage and Compounds

4.02 The contractor site compound shall ideally be located within the arable field away from any tree RPAs and shall be permitted for the storage and securement of materials only within a temporary compound. The compound shall be fenced (2.0m height Heras) and shall allow designated contractor access without obstruction for construction vehicles only entering the development site.

4.03 The compound area shall be located so as not to incur damage or injury to the 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 compound area shall be undertaken with due care so as to negate damage of the surrounding environment.

4.04 Construction access to the site area shall be made at all times via the existing entrance of Maypole Lane or an approved alternative temporary access. Pre-construction vehicular movement to facilitate the removal of existing vegetation shall be limited to the minimum requirement in order to fulfil the vegetation removal works and no vehicular access shall be permitted over unmade ground within the Root Protection Area of existing trees to be retained. Vehicular movements during the construction period shall be limited to the areas of protected ground only.

4.05 All site operations and construction procedures for the duration of the construction period shall seek to protect the existing site vegetation and root protection areas in accordance with *BS 5837:2012 – 'Trees in Relation to Design, Demolition and Construction – Recommendations'*.

Site Compounds – Location and Stationing of Temporary Site Cabins

4.06 The location of the Site Compound Area / Temporary Site Cabins shall minimise the impact upon existing trees to be retained whilst providing reasonable utility for the purpose of the development. The siting of the compound shall minimise the cause for excessive travel or disturbance within the vicinity of existing trees.

- 4.07 The stationing and removal of Temporary Site Cabins shall be implemented with all due care so as not to cause damage to existing tree canopies to be retained. All canopy clearances shall be checked prior to and during the installation of the Site Cabins in order to avoid contact and potential damage to branches. The removal of minor stems to enable the installation process shall be undertaken in accordance with *BS 3998:2010 – Tree Work – Recommendations*.
- 4.08 In order to avoid the compaction of the existing ground within the Areas of Root Protection, vehicular access required for the transportation and installation of the proposed Site Cabins shall be confined to areas outside of the specified Root Protection Areas of the existing trees or otherwise to suitable existing surfaces of hardstanding proven capable of supporting site traffic; or to areas whereby the existing ground undergoes specific *Ground Protective Measures* where a geo-textile ground stabilizing mesh shall be installed over the existing ground level, overlain with Granular Fill Material to a minimum depth of 200mm.
- 4.09 The proposed location of Site Compound Cabins may overlay the Root Protection Areas of existing trees only where it is determined that the location of such cabins is of a temporary nature. No foundations shall be built or excavations made within the Root Zones of existing trees to be retained and protected. Stabilisation and support for proposed cabins shall be made upon existing ground levels; a geo-textile shall be installed over the existing ground level, to be a ground stabilizing mesh; 'Tenax Heavy Duty Ground Stabilising Mesh' or equal and approved, and overlain with Granular Fill Material to a depth of 150mm above which the use of pinned railway sleepers, load bearing beams or pads shall support or make up differences of levels.
- Removal of Existing Vegetation***
- 4.10 Existing trees and vegetation that are designated for removal are to be removed in accordance drawings *LLD808 / 02 – Tree Retention and Protection Plan*. All tree work and removal shall be carried out in accordance with *BS 5837:2012 – 'Trees in Relation to Design, Demolition and Construction - Recommendations'*. Trees designated for removal and felling shall be clearly marked on site with white paint. Prior to the removal and felling of trees, the required work and tree positions shall be agreed on site with the Landscape Architect / Arboricultural Consultant. Trees shall be felled prior to the erection of the Tree Protective Fencing. Care should be taken during the tree removal process to avoid any damage to any trees which are designated to be retained.
- 4.11 Stumps shall be removed and cut away so that the top of the stump shall be at least 450 mm below the final topsoil level in order that the site can be reinstalled in accordance with the existing site levels. Stumps are to be treated with an approved herbicide to be agreed with the Landscape Architect. Where the depth is greater than 450 mm the areas shall be backfilled with topsoil to the required level.
- 4.12 The removal of shrub or scrub material within the 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 Root Protection Area, and reduce any damage to existing tree roots within the protected root zone. Adjacent trees shall not be utilised as anchors or levers to facilitate the removal of adjacent vegetation.

Tree Surgery

- 4.13 Any significant defects found in the trees during the course of the scheduled work shall be reported to the Landscape Architect / Arboricultural Consultant. All scheduled and arising tree work shall be undertaken by an approved and qualified tree surgeon in accordance with BS 3998:2010 – '*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.

Tree and Vegetation Management

- 4.14 For tree and vegetation retention, removal and management proposals refer to the accompanying LLD808 - *Existing Tree Schedule / Schedule of Tree Works*.

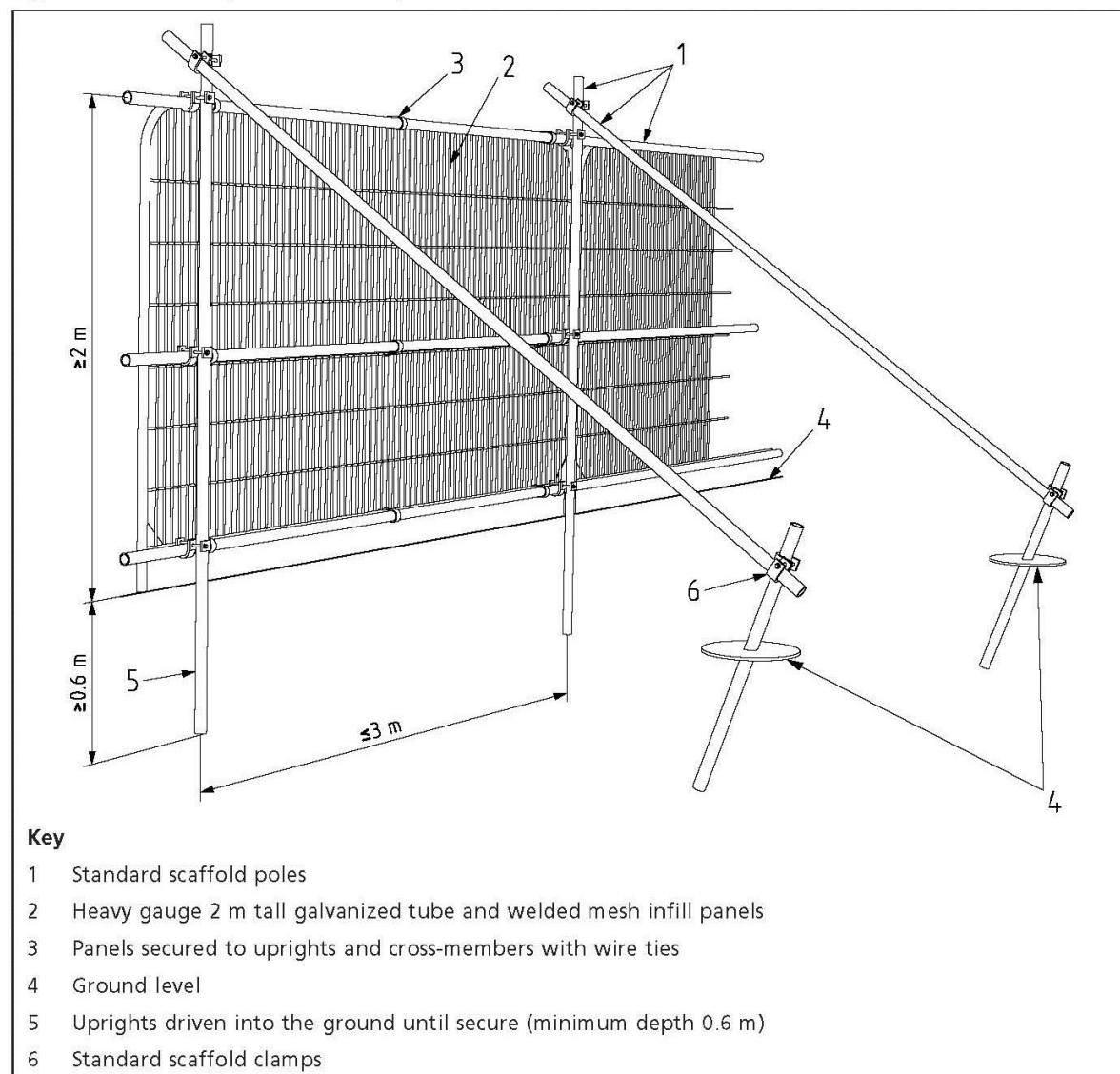
Protection and Retention of Existing Vegetation

- 4.15 The contractor shall exercise extreme care when performing operations beneath the canopy of existing mature trees and vegetation and within the specified 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.
- 4.16 All excavations, cultivation and grading beneath the canopy of existing mature trees and within the specified 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.
- 4.17 All trees to be retained on site shall be protected with fencing erected around the area of mature vegetation in accordance with BS 5837:2012; '*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 Root Protection Areas.
- 4.18 The installed protective fencing 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. 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 drawings LLD808 / 02 – *Tree Retention and Protection Plan*.
- 4.19 Day-Glo ribbons shall be maintained during the main works by the main 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*'.
- 4.20 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.

4.21 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.*

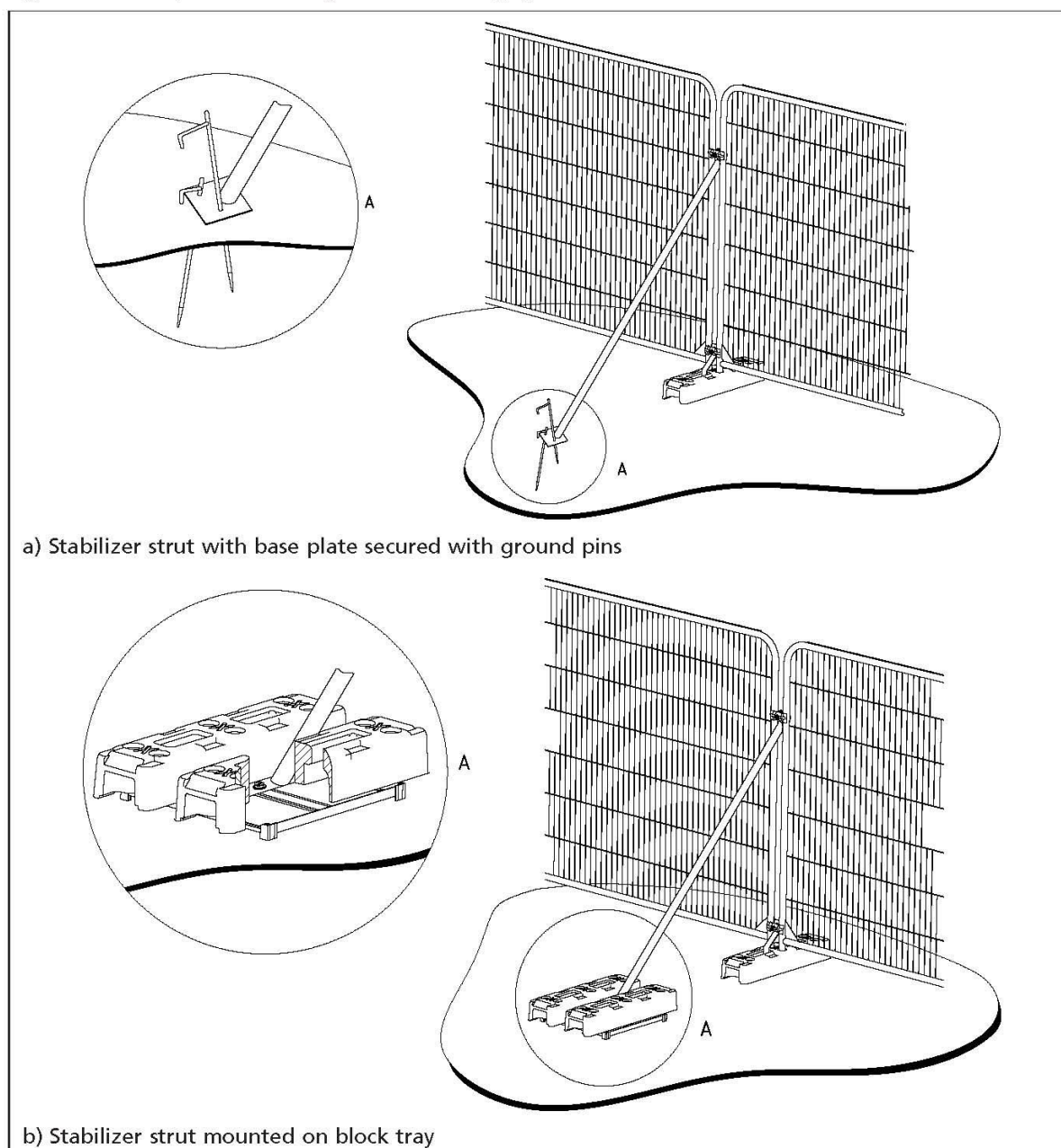
Figure 2 Default specification for protective barrier



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- 4.22 Care should be taken to avoid damage to unseen tree roots and underground services; a secondary fencing support system may be implemented as outlined in Figure 3 below).

Figure 3 Examples of above-ground stabilizing systems



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- 4.23 At the end of the contract period the contractor shall remove protective fencing from the site. All retained vegetation shall be healthy and thriving at the handover date.

Ground Protection: Tree Protection Zone – No Dig Construction

- 4.24 A *No Dig Construction* shall allow for the paving of specified areas within or adjacent to Root Protection Areas. The construction method shall be implemented without intrusion or change of existing ground levels within the Root Protection Areas of existing trees.
- 4.25 Ground levels shall not be raised or lowered within the existing Root Protection Areas. A permeable surface treatment shall be laid over the existing ground allowing water to permeate, and allow for nutrient and gaseous exchange.
- 4.26 The construction area / existing ground within the existing tree RPA is to be overlain with a Geo-membrane and covered with a granular fill of No Fines - Open Graded Aggregate Type 3. The granular fill shall be incorporated within a 3 dimensional GeoCell and shall ensure a minimum supportive depth of 200mm for vehicular access / 100mm for pedestrian footpaths, above which a permeable surface treatment shall be laid. Existing paving material overlying the RPA of existing trees should be left undisturbed during the construction period in order to protect the Root Protection Area of the tree to be retained; to the end of the construction period the existing surface paving material and sub-grade shall be removed carefully by hand before a new permeable paving construction is laid, maintaining existing underlying ground levels.
- 4.27 All retaining kerb restraints / edge supports are to be secured above ground and no general excavation within existing RPAs shall be permitted.
- 4.28 All amenity landscape proposals within existing RPAs of trees and vegetation that are to be retained shall be of a No-Dig construction with any excavation limited to the manual removal of the herb layer / existing loose material.

Ground Protection: Tree Protection Zone – Manual Excavation

- 4.29 Where the development proposals necessitate the tie-ing in and re-grading of existing and proposed levels for vehicular access or include the implementation of boundary fence treatments and/ or underground services such services, cables, pipe work etc; a manual excavation method must be implemented using hand held tools to minimise the impact on existing trees. The excavation shall be executed with due care and attention not to disturb exposed unmade ground and any existing tree roots present within it.
- 4.30 Roots over 25mm 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. 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.
- 4.31 Existing service runs should always be used wherever possible. Where the proposed routing of services impinges upon the RPA 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 RPA radius. Services are to be routed together wherever possible to create the minimum impact upon the tree roots of the existing trees to be retained. Trench excavation across the Root Protection Radius beside an existing tree shall be avoided, whereby tree roots will become severed. Where services are to cross the edge of an existing RPA, 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.

5.0 Arboricultural Method Statement – Notes: General

- 5.01 The principles and recommendations of BS 5837:2012 – *'Trees in Relation to Design, Demolition and Construction - Recommendations'* shall be adhered to at all times in order to prevent damage or undue stress upon the existing trees, soils and roots potentially impacted upon by the development proposals.
- 5.02 Damage of soil structures through compaction, excavation or contamination shall be avoided at all times within the Root Protection Areas. Physical damage to existing trees to be retained; roots, stems, branches shall be prevented wherever possible.
- 5.03 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.
- 5.04 Arboricultural supervision shall be required at the following stages of work:
- *Pre-commencement meeting;*
 - *Installation of Tree Protection measures;*
 - *Method Statement briefing for site staff;*
 - *Removal of Tree Protection measures.*
- 5.05 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.
- 5.06 The method statements relating to the tree protection measures are set out as outlined above; following the above measures of habitat protection any impact to the existing tree and hedgeline habitat is considered to be mitigated.
- 5.07 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 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

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