

ARBORICULTURAL IMPACT ASSESSMENT

LAR2519-ARB-REP-0140



Land at Bentley Cottage
Bentley Cottage, Wickham Hill, Hurstpierpoint

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1. INTRODUCTION

1.1 Instruction

LArch - Landscape Consultancy and Design Ltd (LArch) have been commissioned to undertake a survey of existing trees and produce an Arboricultural Impact Assessment in relation to a proposed development at Bentley Cottage in Hurstpierpoint.

The survey has been undertaken and the report produced by Michal Zarzecki (Landscape Architecture BEng CMLi; Biology BSc MSc), director and principal landscape architect at LArch with 11 years of experience in landscape and arboricultural services.

1.2 Purpose and objectives

The purpose of this report and the associated attachments is to identify and explain any tree-related constraints, assess potential tree-related impacts and assist all parties involved in the development planning process to make balanced judgements about arboricultural features (trees and woody vegetation) in relation to the development proposal.

1.3 Limitations

This report has been prepared for the above named Client for the purpose of development planning and is specific to the surveyed site's conditions. No other warranty applies to the professional advice included in this report and the associated attachments provided by LArch.

This report is not a tree health and safety assessment and no recommendations have been provided regarding the condition of the surveyed trees in relation to their safety.

Trees grow and change over time, therefore the survey results and recommendations contained within this report are valid for 12 months. A new survey and an update to the report may be required if this report is to be used more than 12 months after the survey.

1.4 Related documents

Other documents that have been produced within the scope of this commission are:

- ▶ LAR2519-ARB-DRA-0101 - Tree Constraints Plan - attached in **Appendix 3**
- ▶ LAR2519-ARB-DRA-0110 - Tree Protection Plan - attached in **Appendix 4**.

2. SITE INFORMATION

The proposed development site comprises the rear garden and part of the front area at Bentley Cottage in Hurstpierpoint (Grid Ref.: TQ29251586).

The cottage is located behind a row of residential plots nucleated along Wickham Hill, designated as B2116.

The wider context around the cottage comprises largely residential use along the highway to the south and pastoral rural landscape to the north.

The site context is illustrated in **Figure 1**.



Figure 1. Site location and context

3. DEVELOPMENT PROPOSAL

The proposed development is understood through reference to the architectural scheme by Clive Voller Associates and comprises the rear extension of the cottage with the associated decking area along the rear of the existing eastern end of the cottage.

The Proposed Site Plan is illustrated in **Figure 2**.



Figure 2. Proposed Site Plan (Clive Voller Associates, September 2025)

4. THE SURVEY

4.1 Scope of survey

The tree survey was undertaken during a site visit on 17th November 2025 and encompassed those trees and woody vegetation around the site which would likely be impacted by the development proposal.

4.2 Survey method overview

The arboricultural (tree) survey was undertaken in accordance with BS 5837:2012. 'Trees in relation to design, demolition and construction – Recommendations'.

The survey encompassed a ground-level visual tree assessment and a set of measurements of each individual. Each surveyed tree was given a reference number, measured and assessed for quality and condition. No climbed inspections were undertaken. Only trees with a stem diameter of 75 mm or more, measured at 1.5 m above highest adjacent ground level, were surveyed and assessed. The survey included individual trees in the back and front gardens. All height measurements were undertaken using a laser rangefinder.

Stem measurements of all surveyed trees (taken at 1.5 m above the ground, following Figure C.1 in Annex C of BS 5837), have been used to determine the radii of nominal circles delimiting the Root Protection Areas (RPAs), following Table D.1 in Annex D of BS 5837. A deviation from the original circular plot of the RPA may occur in case of existing physical obstacles, such as, but not limited to, topography, hydrology, drainage, soil conditions, presence of underground structures, past human interventions.

Categorisation of the trees and assignment of quality categories was done regardless of the development proposal and its potential impact on the retention of trees. Details of tree quality categorisation is included in **Appendix 1**.

4.3 Surveyed trees

The vegetation on the site included ornamental shrub beds and several trees. Given the extent of the proposed change, only one magnolia (*Magnolia grandiflora*) tree and a number of shrub beds were considered potentially affected by the development in the back garden. There was one apple (*Malus* sp.) tree growing at the corner of the driveway in front of the cottage.

Details of all surveyed specimens are included in the Existing Tree Schedule in **Appendix 2**.

5. ARBORICULTURAL IMPACT ASSESSMENT

5.1 Constraints posed by existing trees

Trees provide various ecosystem services, delivering numerous benefits to the environment and fulfilling human needs. While these advantages present valuable opportunities, they may also pose constraints on certain development goals or entail responsibilities that could limit flexibility in future development planning. Such constraints may be underground and above-ground.

The underground constraints are represented by Root Protection Areas (RPAs) around the trees. An RPA is a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority. Because of that, RPAs must be observed and safeguarded to minimise any adverse impact on the trees' viability.

Above-ground constraints might include the current and ultimate height and spread of the trees as well as species or individual characteristics, such as foliage retention, density of foliage, shedding of any material, such as foliage, fruit, branches or drip honeydew from foraging aphids.

There are only limited constraints and impacts from the existing trees which are presented in **Table 1**.

Table 1. Impacts from existing trees

Tree ID	Underground Constraints	Above-ground Constraints
T01	RPA	N/A
T02	N/A	Crown (TBC)

5.2 Statutory protection of trees

Tree Preservation Orders

Through reference to Mid Sussex District Council's Tree Preservation Order (TPO) Map online viewer, **there are no trees subject to TPOs** within the site.

Trees in conservation areas

Through reference to Hurstpierpoint Conservation Area Appraisal, the site **is not within the conservation area** boundary.

5.3 Impact on trees

Through reference to the Proposed Site Plan, no direct impact on any trees has been identified. A number of ornamental shrub beds are located within the footprint and in the immediate surrounding of the proposed extension and will have to be removed. It is considered viable to transplant many of those plants if desired.

There is no apparent direct impact on the apple tree at the front of the property; however, there is a risk of impact on the overhanging crown from the construction traffic - subject to vehicles used for deliveries. Given the sparse character of the remaining crown, should significant conflict with the construction traffic occur, it might become most sensible to remove the tree entirely or retain a tall stump and use it for habitat creation, such as installation of bird boxes.

6. ARBORICULTURAL METHOD STATEMENT

This Arboricultural Impact Assessment is produced to facilitate the development planning, with limited technical information provided to account for all design matters, therefore this section should be treated as 'Head of terms' and is intended to be revised at later stage as the technical design progresses.

6.1 Protective barriers

The purpose of tree protection barriers is to demarcate the protected areas treated as Construction Exclusion Zone (CEZ) to safeguard the RPAs or the area below the drip line (whichever is bigger).

Operations that by default must not occur within the CEZ demarcated by protective barriers include, but are not limited to:

- ▶ Access;
- ▶ Ground disturbance;
- ▶ Installation of services;
- ▶ Demolition and construction operations;
- ▶ Storage of materials or waste;
- ▶ Vehicle or plant parking;
- ▶ Refuelling;
- ▶ Release of substances;
- ▶ Fires.

The tree protection barriers must be fit for the purpose of excluding site personnel and the type of machinery in use. It must be able to withstand occasional knocks by machinery and the wind.

The default specification, in accordance with the BS 5837:2012, consists of:

- ▶ min. 2 m high vertical and horizontal scaffold framework, well braced to resist impacts.
- ▶ The vertical tubes should be spaced at a maximum interval of 3 m and driven into the ground.
- ▶ The panels should be supported on the inner side by stabiliser struts, which should be attached to a base plate secured with ground pins. Where the barrier is to be installed over existing hard surfaces, the barrier and the stabiliser struts may be affixed into rubber or concrete feet and clipped together with anti-tamper couplers.

The described options of the default protective barriers are illustrated in accordance with Figures 2 and 3 of the BS 5837:2012 and attached in **Appendix 5**.

Where the site circumstances and associated risk of damaging incursion into the RPA do not

necessitate the default level of protection, an alternative specification should be proposed for the Project Arboricultural Consultant's approval and, where relevant, agreed with the Local Planning Authority.

All-weather notices should be attached to the barrier in sufficient density to prevent omission, for example, on every fourth panel of the barrier. Examples of suitable notice boards available from merchants are included in **Appendix 6**.

The barriers must be in place prior to the commencement of works on site, including demolition, soil stripping, site set-up and delivery of materials.

6.2 Use of herbicides

The use of herbicides in the vicinity of existing trees should be avoided and where this is deemed necessary, the herbicide should be appropriate for the type of vegetation to be killed. The selection and application of herbicides must be undertaken by a competent person in accordance with Control of Substances Hazardous to Health (COSHH) regulations.

Herbicides shall be systemic and spot applied to avoid any damaging effects upon existing trees and other vegetation to be retained, species to be introduced and existing sensitive habitats, particularly aquatic and those associated with drainage features. All instructions on suitable concentration, mixing, use and application as well as all warnings and other relevant information from manufacturers should be strictly observed and followed.

6.3 Arboricultural monitoring and supervision

Arboricultural supervision is required whenever construction and development activity is scheduled to take place within or adjacent to the RPAs of the existing retained trees.

Given the limited extent of the development proposal and the distance from the nearest tree, it is proposed that the installation of the protective barrier is confirmed with the Project Arboriculturist.

APPENDIX 1. THE BS5837:2012 SURVEY

The tree (arboricultural) survey encompassed a ground-level visual tree assessment and a set of measurements. No climbed inspections nor specialist decay examination were undertaken. Only trees with a stem diameter of 75 mm or more, measured at 1.5 m above highest adjacent ground level, were surveyed and assessed. The survey included individual trees along the proposed development boundaries and notes were taken about any tree stumps and other vegetation. Each surveyed tree was given a reference number, measured and assessed for quality and condition.

Dimensions of all accessible trees were obtained using tape measures, a measure wheel or a laser distance meter. All height measurements should be treated as approximate. Trees not accessible for direct inspection were visually assessed from the best accessible vantage point and any dimensions or observations are suffixed in the Existing Tree Schedule with a hash symbol ('#') and should be treated as approximate.

Stem measurements of all surveyed trees (taken at 1.5 m above the ground, following Figure C.1 in Annex C of BS 5837), have been used to determine the radii of nominal circles delimiting Root Protection Areas (RPA), following Table D.1 in Annex D of BS 5837.

The surveyed trees were categorised based on their size and shape, condition, estimated remaining safe useful life expectancy (SULE) and value (in a non-fiscal sense; landscape, amenity and/ or cultural) to allow informed decisions about the retention or removal in the event of development. The quality categorisation is independent of the development proposal. Detailed criteria for categorisation are given in the BS 5837 and here our interpretation is explained:

Category A - Depicted in green - Trees of high quality and amenity, conservation or historic value. Usually mature trees that are good examples of their species; with naturally shaped crowns; that contribute to the local landscape. In a location and condition lending them an estimated remaining safe useful life expectancy of at least 40 years. Defects or constraints that do not reduce their safe lifespan below that threshold are acceptable.

Category B - Depicted in blue - Trees of moderate quality but still with some conservation or other cultural value. They may be large or otherwise good quality trees but they may lack those special qualities of Cat A trees, be in an impaired condition or grow in a constrained situation which reduces their safe life expectancy but it is still at least 20 years. Groups or woodland can be in this category even though their trees individually present lower quality.

Category C - Depicted in grey - Trees of low quality, with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm, without material conservation or cultural value. From arboricultural perspective, not remarkable trees or in an impaired condition. Cat C trees are not normally considered a constraint to development.

Category U - Depicted in red - Trees in such a condition that their useful remaining life expectancy is less than 10 years. These are trees that are dead, dying or that have serious structural defects and are dangerous. Such trees may not be viable to survive but still have conservation potential as deadwood habitats for wildlife. Some dead or dying trees may still have structural integrity to remain safely in place many more years but may require monitoring.

The BS 5837 suggest that trees in categories A to C, it should qualify under one or more of subcategories: 1 to reflect arboricultural qualities, 2 to reflect mainly landscape qualities and 3 to intended cultural values.

All the recorded parameters are included in the Existing Tree Schedule (**Appendix 2**) and shown in the Tree Constraints Plan drawing (**Appendix 4**).

APPENDIX 2. EXISTING TREE SCHEDULE

Ref	Species	DBH [mm]	RPA Radius [m] Area [m²]	Height [m] First Branch Ht [m]	Crown Spread	Age Group	Structural Cond. Physiol. Cond.	Quality Category/ Retention Perspective	Comments and Recommendations
T01	Evergreen magnolia <i>Magnolia grandiflora</i>	481	R: 6.0 A: 113 RPA plot modified by the adjacent wall	6.2 0.6	N: 5.0 E: 5.5 S: 6.0 W: 5.0	M	F F	C1 10+ years	Generally attractive and dominant tree. Crown: Dome-shaped. Slightly sparser on the northern side. Some minor deadwood in the crown. Several medium limbs historically removed. Some with unoccluded wood with signs of rot. Stem: Black stain from bleeding canker or lesion at ca. 3 m height. No leaf wilting or other signs of decline at the time of survey. I not for the infection, the retention perspective would have been estimated at 40+ years. Roots: Tree growing between boundary wall and concrete hardstanding. Roots shallow and on the surface, exposed to damage.
T02	Apple tree <i>Malus</i> (potentially <i>M. Prunifolia</i>)	242	R: 3.0 A: 28	5.0 3.0	N: 3.5 E: 3.0 S: 3.5 W: 3.0	SM	P P	C1 10+ years	Tree within a walled planting area at the front of the property. Crown: Very sparse. Above 3 m over the drive. Stem: Three leaders. Remnants of ivy growth on the trunk. Patches of damage on bark, potentially from historical ivy removal. Roots: Not accessible for inspection.

Tree Data Key

ID reference - Sequential number prefixed by a letter referring to the type of vegetation: T - tree; TG - tree group; TL - tree line; H - hedge; SH - shrub/ scrub.

Species - Botanical (in Latin) and common name.

- Denotes estimated dimensions.

DBH - Diameter at breast height. Measured as girth (circumference) at 1.5 m (hence 'breast height') above the highest ground level around the tree and converted to diameter. For multi-stem trees, the British Standard introduces two formulas for calculating a combined stem diameter (CSD), depending whether the tree has 2-5 stems or more than 5.

Height - Measured from the ground level to the tree top.

Height of First Branch - Measured from the ground level to where the lowest branch is attached to the stem (trunk).

Crown Spread - Measured from the centre of the stem in four cardinal directions, north, east, south, west, and rounded to the nearest 0.5 m.

Age Groups:

Y - young

SM - semi-mature

EM - early mature

M - mature

V - veteran

OV - over-mature

Physiological Condition categories:

G - Good; healthy tree with no symptoms of pests or disease.

F - Fair; pests or disease present or otherwise vigour is impaired.

P - Poor; significant impact of pests or disease on tree's vigour.

D - Tree in decline or dead.

Structural Condition categories:

G - Good; no significant structural defects observed.

F - Fair; some minor defects observed but priority remedial work is not required.

P - Poor; significant defects observed that require monitoring or remedial work.

D - Defective; observed defects are so significant or major that are of risk to tree's stability or retention

APPENDIX 3. TREE CONSTRAINTS PLAN (EXTRACT)



Legend

Survey Boundary

Category A Trees
Trees of high quality
Estimated remaining life expectancy over 40 years

Category B Trees
Trees of moderate quality
Estimated remaining life expectancy over 20 years

Category C Trees
Trees of low quality
Estimated remaining life expectancy over 10 years, or young trees with a stem diameter below 150 mm

Category U Trees
Trees unsuitable for retention
Trees with serious structural defects;
Trees that are dying, dead or dangerous

Tree Root Protection Areas (Calculated)

Tree Root Protection Areas (considered more realistic)

Existing Vegetation and Hedgerows

Notes:

1. For best performance, drawing to be viewed in colour.
2. Dimensions shall not be scaled for construction purposes.
3. Drawing is to be read in conjunction with all relevant Arboricultural Consultant's documentation.
4. Differences between this drawing and site conditions encountered must be reported to the Arboricultural Consultant.

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PLANNING

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Scale
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Drawing Title
Tree Constraints Plan

LArch Project Ref.
LAR2519

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ARB

Number
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Revision
P01

Form
DRA

APPENDIX 4. TREE PROTECTION PLAN (EXTRACT)



Category A Trees

Trees of high quality

Estimated remaining life expectancy over 40 years

Category B Trees

Trees of moderate quality

Estimated remaining life expectancy over 20 years

Category C Trees

Trees of low quality

Estimated remaining life expectancy over 10 years, or young trees with a stem diameter below 150 mm

Category U Trees

Trees unsuitable for retention

Estimated remaining life expectancy less than 10 years
Trees with serious structural defects;
Trees that are dying, dead or dangerous

Tree Root Protection Areas (Calculated)

Tree Root Protection Areas (considered more realistic)

Existing Vegetation and Hedgerows

Proposed Development Footprint

Existing Vegetation for Removal

Protective Barrier and Construction Exclusion Zone

RPA is a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority. In contentious situations, the actual extent of the root system can be confirmed using compressed air soil displacement ('air spade') or root scanner.

Default specification: Weldmesh panel fixed to vertical and horizontal scaffold framework.
Height: min. 2.0 m.
Span between uprights: mx. 3.0 m.

Notes:

1. For best performance, drawing to be viewed in colour.

2. Dimensions shall not be scaled for construction purposes.

3. Drawing is to be read in conjunction with all relevant Arboricultural Consultant's documentation.

4. Differences between this drawing and site conditions encountered must be reported to the Arboricultural Consultant.

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PLANNING				
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Drawing Title

Tree Protection Plan

LArch Project Ref.

LAR2519

Discipline

ARB

Form

DRA

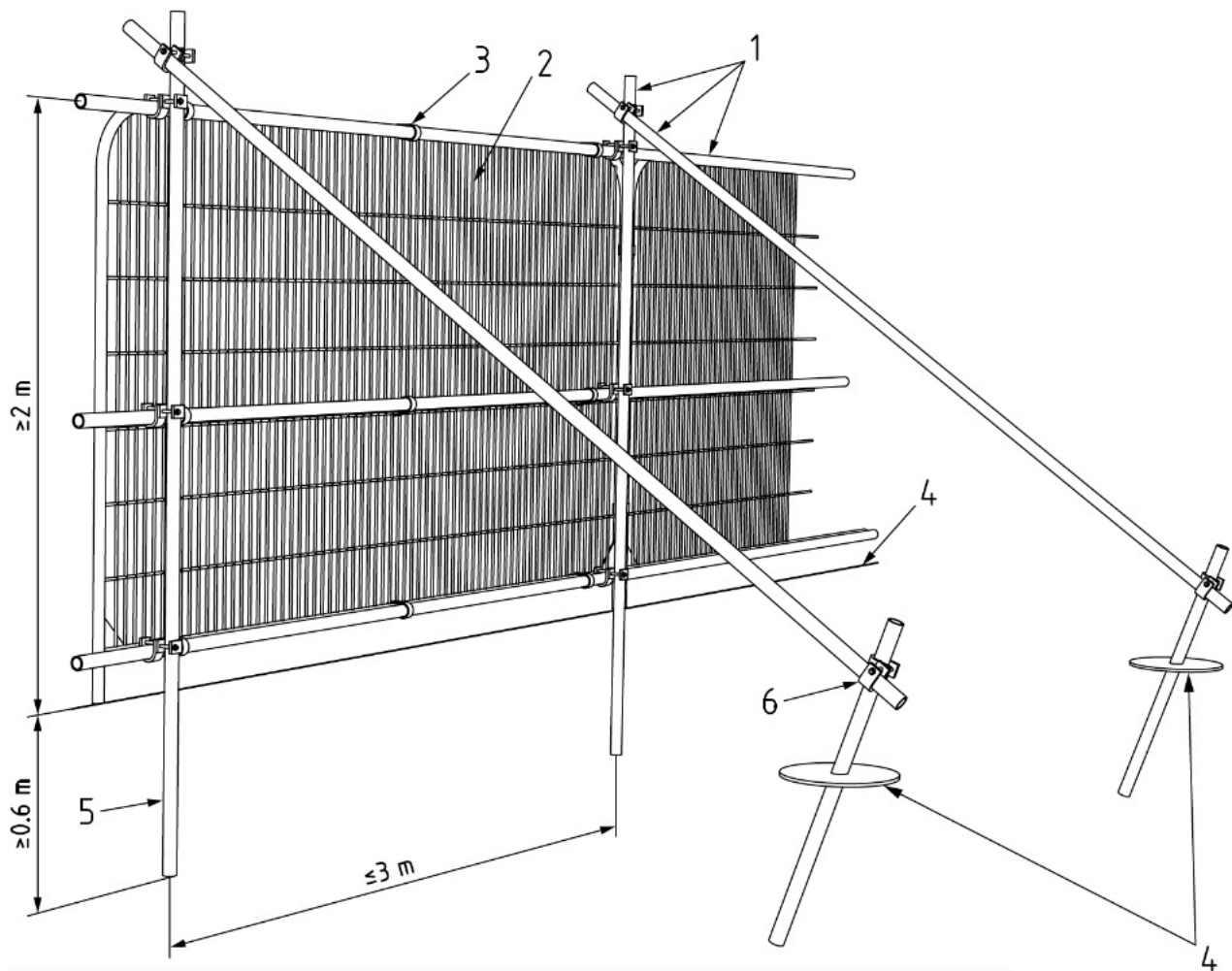
Number

0110

Revision

P01

Appendix 5. Tree Protection Barrier - Options

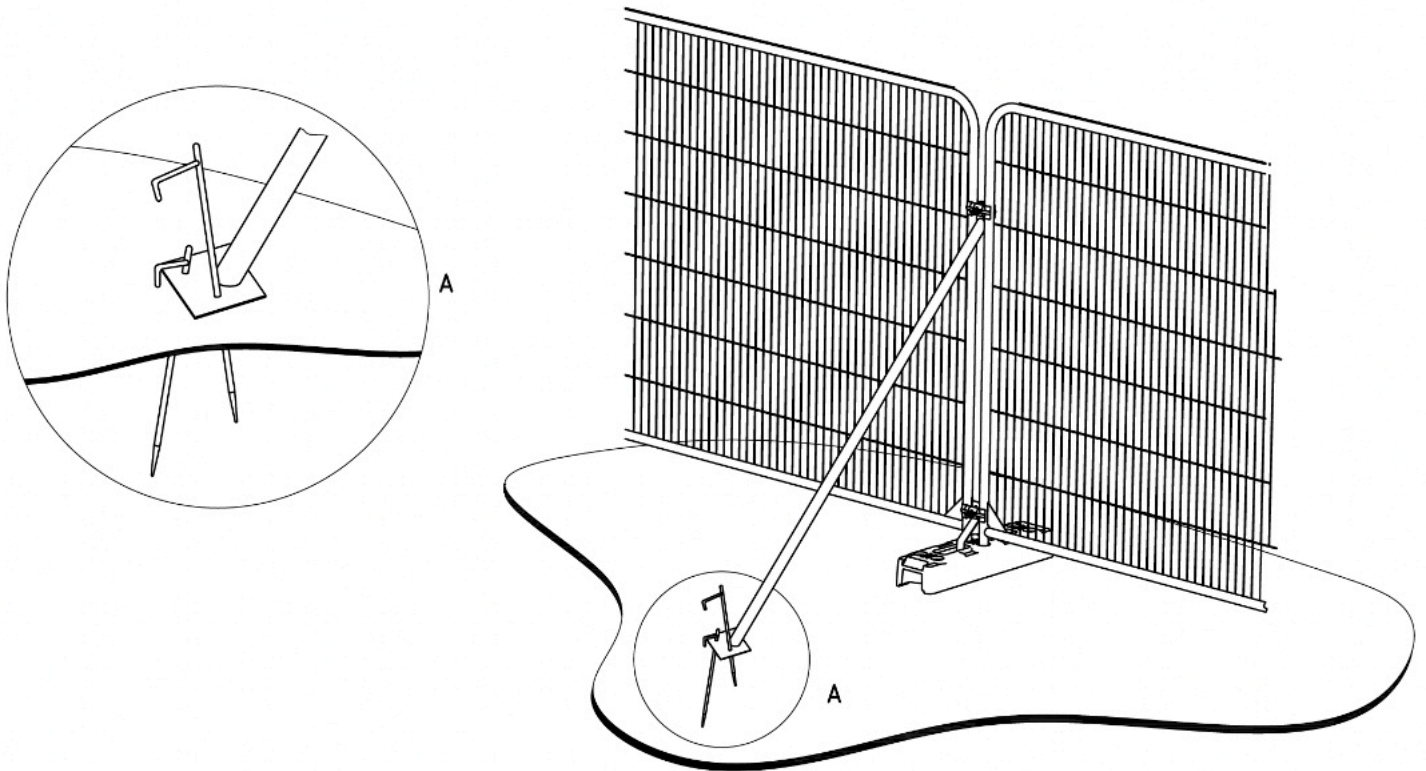


Key

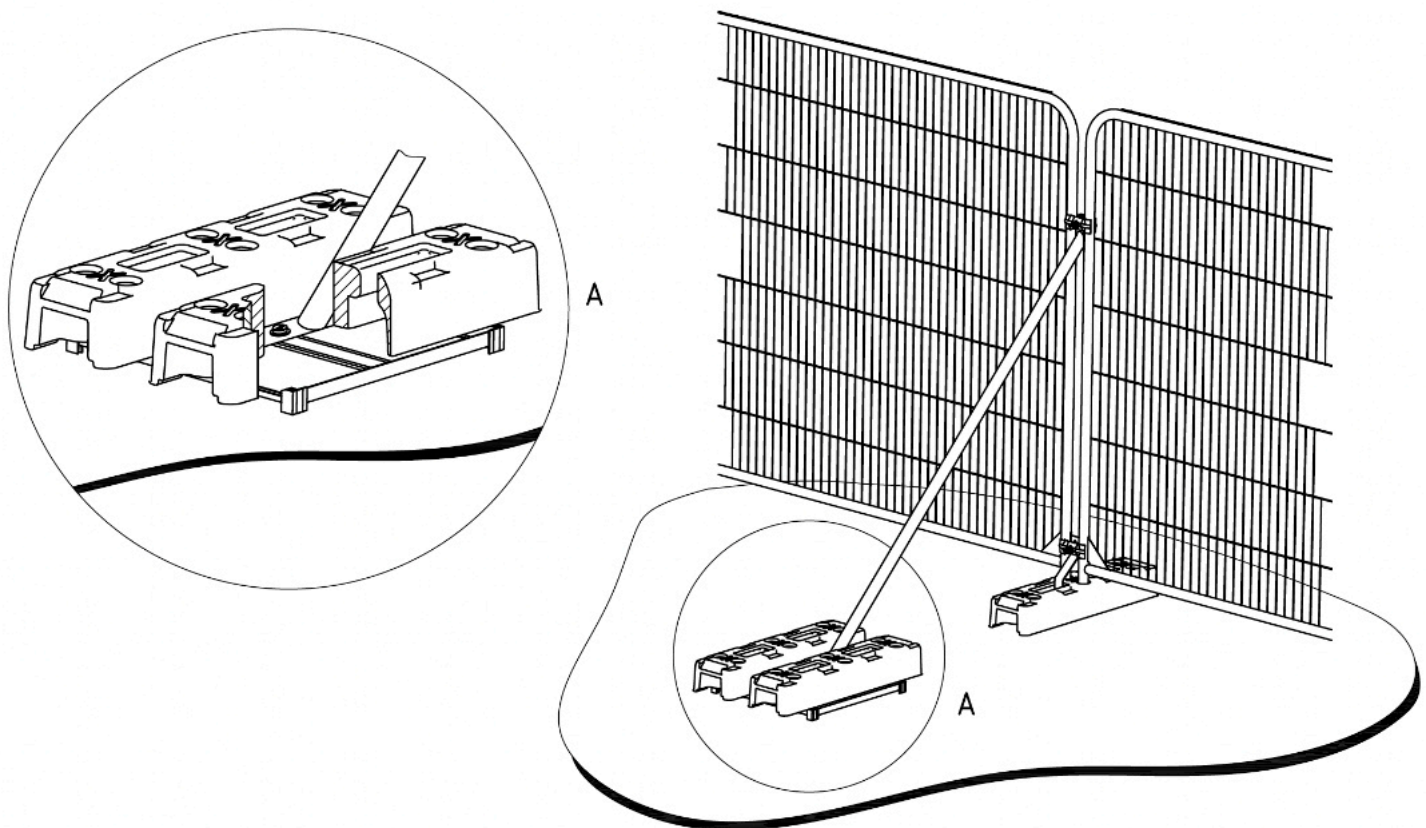
- 1 Standard scaffold poles
- 2 Heavy gauge 2 m tall galvanised tube and welded mesh infill panels
- 3 Panels secured to uprights and cross-members with wire ties
- 4 Ground level
- 5 Uprights driven into the ground until secure (minimum depth 0.6 m)
- 6 Standard scaffold clamps

Reproduced with permission of BSI from Figure 2 and Figure 3 of BS 5837:2012.

Default specification of above-ground protective barrier - Stabiliser strut with base plate secured with ground pins



Default specification of above-ground protective barrier - Stabiliser strut mounted on block tray



Reproduced with permission of BSI from Figure 2 and Figure 3 of BS 5837:2012.

Appendix 6. Tree Protection Notice Examples



**PROTECTIVE FENCING. THIS
FENCING MUST BE
MAINTAINED IN ACCORDANCE
WITH THE APPROVED PLANS
AND DRAWINGS FOR THIS
DEVELOPMENT.**



**TREE PROTECTION AREA
KEEP OUT !**

(TOWN AND COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY
PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A
TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY
LEAD TO CRIMINAL PROSECUTION

ANY INCURSION INTO THE PROTECTED AREA MUST BE
WITH THE WRITTEN PERMISSION OF THE LOCAL
PLANNING AUTHORITY

**TREE PROTECTION AREA
KEEP OUT!**

TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND ARE SUBJECTS OF A
TREE PRESERVATION ORDER
(TOWN & COUNTRY PLANNING ACT 1990)

CONTRAVENTION OF TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION

THE FOLLOWING MUST BE OBSERVED BY ALL PERSONS:-

- THE PROTECTIVE FENCING MUST NOT BE REMOVED
- NO PERSON SHALL ENTER THE PROTECTED AREA
- NO MACHINE OR PLANT SHALL ENTER THE PROTECTED AREA
- NO MATERIALS SHALL BE STORED IN THE PROTECTED AREA
- NO SPOIL SHALL BE DEPOSITED IN THE PROTECTED AREA
- NO EXCAVATION SHALL OCCUR IN THE PROTECTED AREA

**ANY INCURSION INTO THE PROTECTED AREA MUST BE
WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY**



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