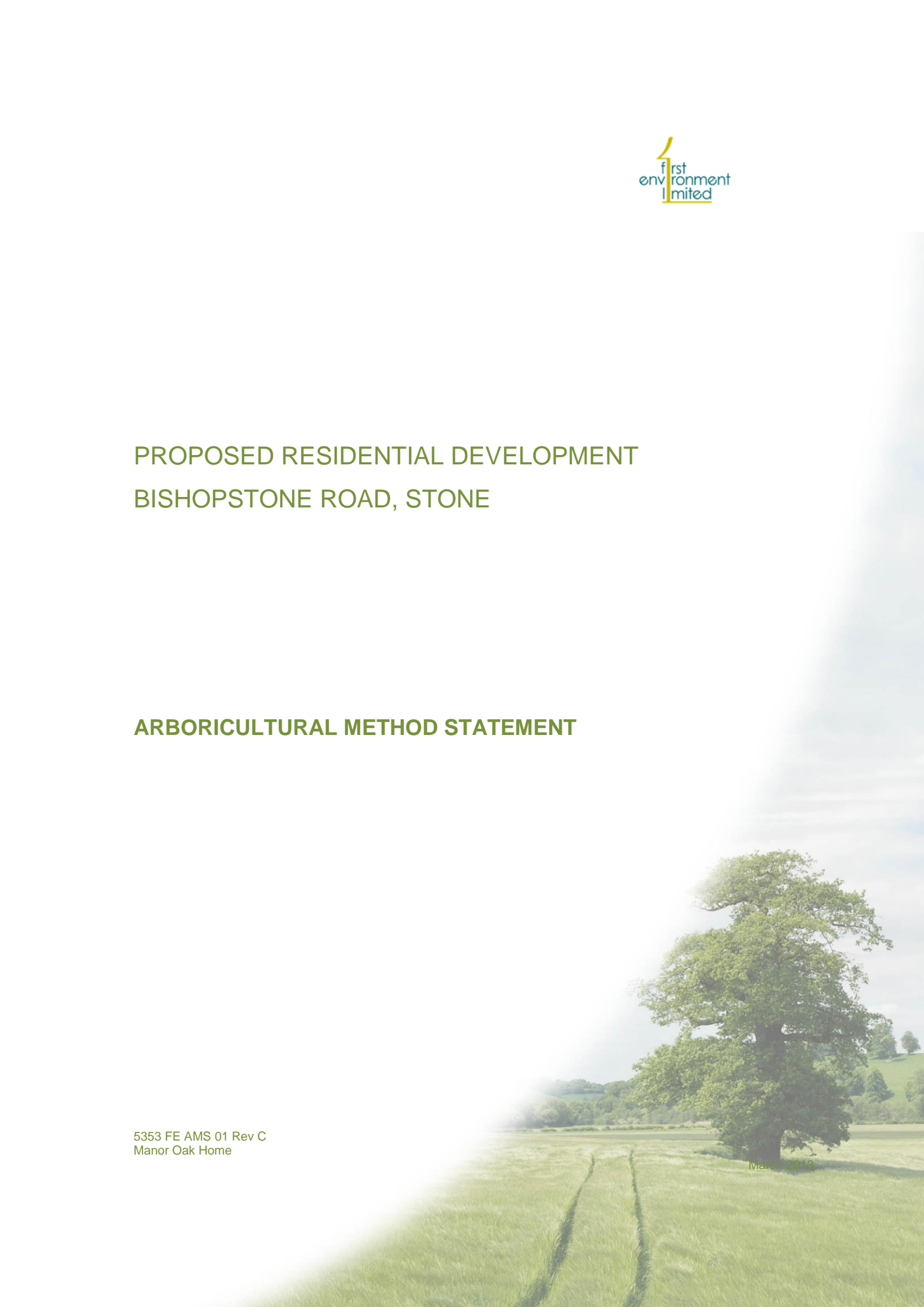


PROPOSED RESIDENTIAL DEVELOPMENT  
BISHOPSTONE ROAD, STONE

ARBORICULTURAL METHOD STATEMENT



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## 1 **Executive Summary**

- 1.1 Following instructions received in August 2014, this statement has been produced to inform a planning application for construction of a residential development on land adjacent to Bishopstone Road, Stone. The site and proposed development have been assessed in accordance with the relevant British Standard, BS 5837:2012 'Trees in Relation to Design, Demolition and Construction'.
- 1.2 A total of 31 individual trees, 5 groups and 2 hedges were recorded during the survey. The schedule provided in Appendix B provides a detailed record of each of these components. Appendix C provides a graphical representation of the survey data.
- 1.3 In order to implement the development it will be necessary to advocate the removal of 1 category 'C' tree (Tree No.31), the clearance of 2 category 'C' groups (G4 & G5) and the partial clearance of 1no. category 'C' hedge (H2).

## 2 **Scope**

- 2.1 Following instructions received in August 2014, this statement has been produced to inform a planning application for construction of a residential development on land adjacent to Bishopstone Road, Stone. The site has been addressed in accordance with the relevant British Standard, BS 5837:2012 'Trees in Relation to Design, Demolition and Construction'.
- 2.2 This report provides an informed overview of the existing tree cover, a summary of any implications arising from the proposed scheme and comments regarding the integration of existing trees into the proposed setting.
- 2.3 The following information in no way constitutes a health and safety survey or report. Where concerns for tree health and safety exist the necessary and appropriate tree inspections should be undertaken.

### 3 Survey and Explanation of Grading Categories (BS 5837:2012)

- 3.1 Existing tree cover pertinent to the development has been surveyed in accordance with BS 5837:2012 'Trees in Relation Design, Demolition and Construction'. The survey was conducted in October 2014 during a period of early leaf fall in the growth cycle of deciduous broadleaved trees.
- 3.1.1 This type of survey is designed to identify those trees which are likely to be affected by development of the site and inform the decision making process whereby trees are deemed suitable for retention and integration into a proposed scheme or need to be removed.
- 3.1 A total of 31 individual trees, 5 groups and 2 hedges were recorded during the survey. The schedule provided in Appendix B provides a detailed record of each of these components. Appendix C provides a graphical representation of the survey data.
- 3.1.1 A total of 5 trees were identified as being worthy of category 'B' as individuals. These were Tree Nos.9 Horse Chestnut *Aesculus hippocastanum*, 10 Scots Pine *Pinus sylvestris* and 11, 14 & 17 Common Lime *Tilia x europaea*. These are all established trees located in residential gardens to the north of the proposed site.
- 3.1.2 All of the remaining individual trees and all of the collections were considered to be category 'C' specimens.
- 3.2 Trees are surveyed on an individual basis unless they form a collective feature when they may be considered as a woodland, group or hedge on the basis of aerodynamic, cultural or visual features. Individual trees of particular prominence or value within a collection may still be assessed as individuals.
- 3.2.1 For each surveyed tree/group the following information has been recorded:
- i. TREE NO: Used to identify trees in the schedule and associated plans.
  - ii. HEIGHT: Height of tree in metres to the centre of the crown top or highest point.
  - iii. DBH: Diameter of the tree at 1.5m from ground level. Where multiple stems are present these are measured individually where practicable. This measurement is used to calculate the Root Protection Area (RPA) for each tree.

- iv. CROWN SPREAD: Shown as compass points e.g. N, E, S, W. Dimensions are taken from the centre of the main trunk.
- v. CROWN CLEARANCE: Height of lowest branch. Small twigs and epicormic growth may be present below this level but could be removed with no detriment to the tree.
- vi. PHYSIOLOGY and STRUCTURE: Description of general form, including presence of physical defects, disease or decay and other appropriate details based on health, vitality and overall structural integrity.
- vii. AGE CLASS: Young / Middle-aged / Mature / Over Mature / Veteran. Veteran trees are those deemed to be of significant biological, cultural or aesthetic value, usually beyond typical age range and often exhibiting significant structural defects.

3.2.2 Trees are categorised as per Table 1 of BS 5837:2012; these are divided between retention categories 'A' – 'U'.

### 3.3 Explanation of Categories:

- i. Category 'U': Those in such a condition that any existing value would be lost within 10 years or which should, in the current context, be removed for reasons of sound arboricultural management. If within ownership, category 'U' trees should not be considered as constraints within the planning process. However, it may be desirable to seek retention of a category 'U' specimen if it is considered to have significant ecological or conservation value. Category 'U' trees are identified by dark red canopy edges on the tree plans.
- ii. Category 'A': Those of high quality and value: in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested). These are identified by light green RPAs on the tree plans.
- iii. Category 'B': Those of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20 years is suggested). These are identified by dark blue RPAs on the tree plans.
- iv. Category 'C': Those of low quality and/or value: currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150mm. These are identified by dark grey RPAs on the tree plans.

3.3.1 The following subcategories are applied. Trees may be allocated more than one subcategory, but this will not increase their overall value.

i. Mainly **arboricultural** values (suffix 1)

A1: Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue).

B1: Trees that might be included in category 'A', but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and major storm damage), such that they are unlikely to be suitable for retention in the long term; or trees lacking the special quality necessary to merit the category 'A' designation.

C1: Unremarkable trees of very limited merit or such condition that they do not qualify in higher categories.

ii. Mainly **landscape** values (suffix 2)

A2: Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features.

B2: Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality.

C2: Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefit.

iii. Mainly **cultural** values, including **conservation** (suffix 3)

A3: Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture).

B3: Trees with material conservation or other cultural value.



C3: Trees with no material conservation or other cultural value.

3.4 **Note:** as a general rule and irrespective of subcategories: Category 'A' trees are considered to be of the highest priority for retention; Category 'B' of moderate priority and those of Category 'C' standing of lower priority. Onsite Category 'U' trees are given the lowest priority for retention.

## 4 Opportunities and Constraints for Development

- 4.1 The proposed site is composed of a single field adjacent to Bishopstone Road. It is currently under grass but does not appear to be in use as pasture at this time. It lies between Bishopstone Road to the south-west, residential properties to the north and a Public Open Space (POS) to the east with residential properties beyond.
- 4.2 We are not aware of any statutory protection relating to trees on the site at the time of compiling this report. However, the site is adjacent to a Conservation Area whose boundary is Bishopstone Road outside the south-western boundary of the site. Tree Nos. 5-7 & 9-16 area also covered by a Tree Preservation Order, TPO 1971 No. 10, within which they are included under 'A1'.
- 4.3 A public footpath passes through the northern portion of the site connecting the POS to Bishopstone Road.
- 4.4 There are no large trees within the site boundaries. The south-western boundary is composed of a hedge beside Bishopstone Road. This is regularly maintained beside the road but maintenance appears to have lapsed within the site allowing a belt of self-seeded trees to develop. This includes several collapsed Common Elder *Sambucus nigra*. The invasive growth is of low quality and of no particular merit as it does not enhance the hedge and could adversely impact this feature in the future should it become over-dominant.
- 4.4.1 The north-western boundary has only a few young self-seeded trees within the site which are partially lost within the edge of vegetation located in the adjacent garden and which provides the primary screen. This includes a few individual trees but is mainly composed of an area of dense vegetation partially obscured by dense Ivy *Hedera helix*. As such it is of low quality but moderate value for its screening benefits. However, the feature shows signs of decline likely due to insufficient maintenance and is unlikely to be of long term potential under the current regime.
- 4.4.2 The northern boundary is formed by the rear gardens of a line of residential properties. This contains a number of large, established trees including the remains of a line of Common Lime which were likely a former boundary feature. Several of these trees have been lost and the line is becoming fragmented. Other large ornamental trees are also present in the form of Horse Chestnut and Scots Pine. Collectively these trees form a significant landscape feature and provide significant screening benefits.

- 4.4.3 The eastern boundary abuts a Public Open Space (POS) with residential properties beyond. The boundary has some older Hawthorn *Crataegus monogyna* present which suggest that it once had a hedgerow associated with it, but this is now largely absent. Recent planting of a large number of whips along the boundary appears to be an attempt to re-create a hedgerow site-side of the boundary fence. Some establishing ornamental plantings are present just within the POS but the boundary is still quite open.
- 4.5 Development of the site would provide an opportunity to provide enhanced/additional boundary cover on the eastern and south-western boundaries. The established/tall trees adjacent to the northern boundary will require significant offsets and this space could be used to enable the planting of larger species including Common Lime. However, due to the relatively small size of the plot only a few larger trees could be readily accommodated.

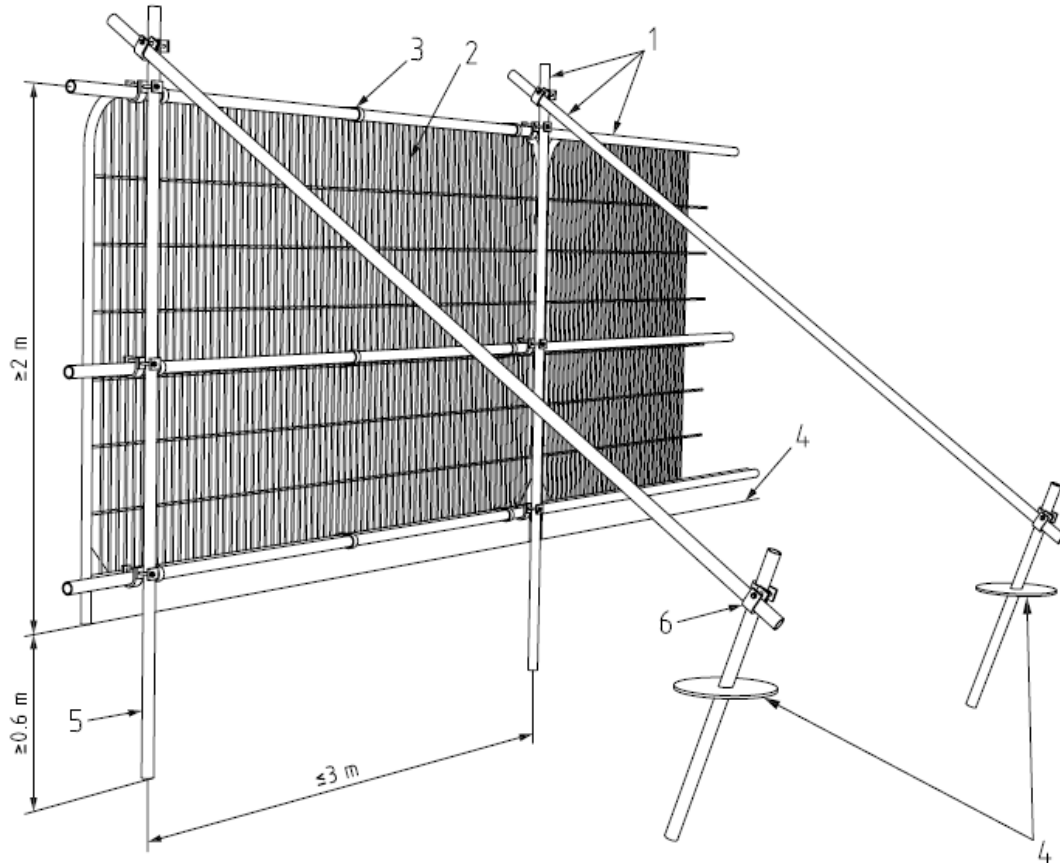
## 5 Tree Protection and Removals

- 5.1 New developments can be greatly enhanced by the presence of appropriate trees. The retention of suitable specimens can significantly aid the integration of new structures into an existing landscape and allow a degree of continuity for both people and wildlife alike. However, care must be taken to safeguard retained stock and minimise impacts, especially disturbance to the rooting environment.
- 5.1.1 Construction often entails extensive groundworks such as excavation, cutting, filling and compaction. These changes can not only directly damage roots but also affect the physical and chemical properties of the soil and so impair root growth or function.
- 5.1.2 Our assessment of the proposed development in relation to existing trees is illustrated in Appendix A. This shows those trees that it is necessary to remove in order to implement development and those that may be retained and integrated into the site, together with appropriate protection and any special construction considerations required.
- 5.1.3 Our assessment is informed by tree location, current size, future requirements, root morphology and the proposed rooting environment. The tolerance of the trees to disturbance based on species, age, condition and the presence of surrounding trees and built form is also considered.
- 5.1.4 The **Root Protection Area** is the minimum soil surface area (in m<sup>2</sup>) that should be left undisturbed around each tree to maintain the tree's long-term viability. In First Environment drawings RPAs are illustrated in colour to indicate the extent of the constraint posed and show the category of the relevant tree or group:
- Category 'A' trees/groups: Green RPA
  - Category 'B' trees/groups: Blue RPA
  - Category 'C' trees/groups: Grey RPA
  - Offsite Category 'U' trees/groups: Grey RPA
- 5.2 **Tree Works:** In order to implement the development it will be necessary to advocate the removal of 1 category 'C' tree, the clearance of 2 category 'C' groups (G4 & G5) and the partial removal of 1 category 'C' hedge (H2). 3 trees will need to be cut back to facilitate development.

- 5.2.1 Hedge No.H2 will need to be partially removed to create vehicular access to the site. Tree No.31 Wych Elm *Ulmus glabra* will also need to be removed due to impacts by the access road but is unlikely to have been of long term potential due to evidence of Dutch Elm disease in the area.
- 5.2.2 In order to avoid conflicts with the large offsite trees to the north and to maintain a distance from the Conservation Area, built form within the development will be located adjacent to the eastern boundary. This will include the installation of an access road close to the boundary which will necessitate the crown reduction of Tree Nos.23 & 28 Hawthorn and 26 Flowering Cherry *Prunus sp.* which should be cut back to clear the proposed access.
- 5.3 **Protective Barriers:** To ensure retention of existing trees it will be necessary to protect the above ground structures and the underlying rooting environment from damage during construction. Such detriment commonly includes impact damage, root severance, soil compaction and soil contamination.
- 5.3.1 To provide adequate protection it is necessary to define a Construction Exclusion Zone around retained tree cover and protect its perimeter (as far as is practicable) from encroachment using fixed barriers, i.e. weldmesh panels on a scaffold framework as shown in BS 5837:2012 (refer to Figure 1 below).
- 5.3.2 Barriers are to be erected before any materials or machinery is brought onto the site, before any stripping of soil commences and before construction begins. Once erected, the area tree-side of the barrier should be treated as sacrosanct and should not be disturbed, used for storage or altered.
- 5.3.3 Barrier locations are shown by a **bold blue line** in Appendix A. It is advised that an arboriculturist should spray mark the barrier in order to establish the correct position for the fencing contractor.
- 5.3.4 A **bold cyan line** representing temporary protection fencing is also shown adjacent to Tree Nos. 23-28, outside proposed works. Tree protection fencing will be placed in accordance with these lines until the proposed works are to begin. Fencing will then be relocated to the final position as shown by the **bold blue line**.
- 5.3.5 Special care should be taken to ensure that activities conducted outside the Tree Protection Fencing do not affect retained trees. This includes such measures as employing a banksman when moving outside loads. Potentially hazardous materials should be stored downhill or at the maximum possible distance from retained trees, or

have a suitable protective barrier between the trees and storage area. Fires should be avoided wherever possible, or lit well away and downwind from retained trees.

**Figure 1:** Recommended Tree Protection Fencing Specification for this Development (Source: BS 5837:2012)

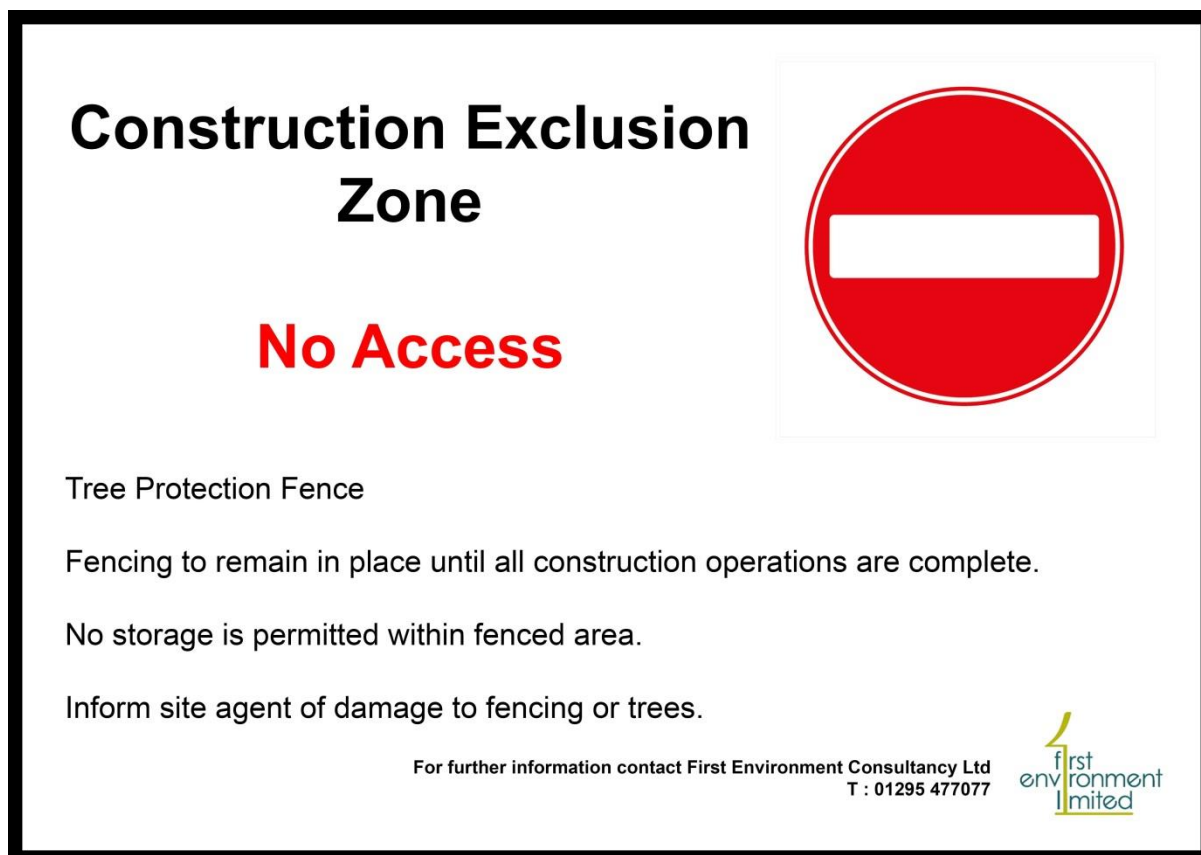


- Key:
- 1 Standard scaffold poles
  - 2 Heavy gauge 2m galvanized tube and welded mesh inset panels
  - 3 Panels secured to uprights and cross-members with wire ties
  - 4 Ground level
  - 5 Uprights driven into ground until secure (min 0.6m)
  - 6 Standard scaffold clamps

5.3.6 Regular checks should be undertaken to ensure that the tree protection fencing is to the correct specification, in the correct position and functioning appropriately. We also advise that all-weather notices are erected on the fencing to provide a point of contact for arboricultural advice and to deter any relocation, removal or detriment to its intended purpose. Figure 2 (below) provides an example of such signage.

5.3.7 Tree protection fencing will remain in place until all construction activities are complete unless prior permission for removal is obtained from the Local Authority.

Figure 2: Tree Protection Fencing Signage (Example)



- 5.4 **Above Soil Surfacing:** Above soil surfacing is specified to minimise the potential impact on trees by reducing soil compaction to within acceptable levels and prevent erosion. The exact specification is dependant upon final usage.
- 5.4.1 Choice of materials and installation should be approved by the project engineer and conducted in accordance with the manufacturer’s guidelines. However, we would recommend a cellular confinement system such as Cellweb by Geosynthetics Ltd.
- 5.4.2 Those trees requiring above soil surfacing within their RPAs are category ‘C’ Tree Nos. 23 & 28 Hawthorn and 26 Flowering Cherry. This surface will be extended for the length of the private drive to minimise the area of soil lost to adjacent trees as they develop.
- 5.4.3 Where possible above soil surfacing should be installed either at the start or end of the construction phase in order to minimise the likelihood of sensitive areas being left unprotected during busy periods of the build.
- 5.4.4 Areas to be covered with above soil surfacing are to be protected by Tree Protection Fencing until the surface is installed (see 5.3.4 above).

- 5.4.5 No plant not directly involved in the works is to be allowed within the formerly fenced area until installation of the above soil surfacing is complete. Pedestrian traffic should also be restricted to those involved in the installation.
- 5.4.6 No plant is permitted to traverse the line of the above soil surfacing until the cellular confinement system has been filled with aggregate.
- 5.4.7 Loose organic material (including turf) will be removed using hand-tools - no excavation or re-grading is permitted unless specifically stated by the project arboriculturist.
- 5.4.8 The edges may be stabilised if necessary using an edging held in place with wooden pegs or metal pins.
- 5.4.9 The final wearing course is to be as detailed in the planning application.
- 5.4.10 Areas requiring above soil surfacing are shown by a **pink honeycomb hatch** in Appendix A.
- 5.5 **Note regarding posts within RPAs.** Extra precautions should be taken if it is necessary to use concrete to install posts situated within the RPAs of retained trees. These include:
- Post holes should be excavated by hand;
  - An impermeable membrane should be used to line the hole before filling with concrete;
  - No concrete is to be mixed within the RPA;
  - Excess/spilt concrete should be removed upon completion of works.



## 6 Conclusions

- 6.1 To inform proposals for a residential development on land adjacent to Bishopstone Road, Stone, a survey of trees likely to be influenced during construction has been undertaken in accordance with BS 5837:2012.
- 6.1.1 A total of 31 individual trees, 5 groups and 2 hedges were recorded during the survey (refer to Appendix B and C). 5 trees were identified as category 'B' specimens as individuals. All of the remaining trees and groups warrant category 'C' status.
- 6.1.2 Our assessment of the proposed development in relation to existing trees is illustrated in the form of a Tree Protection Plan (refer to Appendix A).
- 6.2 Tree removals incurred by the proposed layout amount to:
- 1 category 'C' tree, Tree No.31;
  - Clearance of category 'C' Group Nos.G4 and G5;
  - Partial clearance of category 'C' Hedge No.H2.
- 6.2.1 It is our opinion that these trees should be removed either because they cannot be practicably retained, provided with adequate protection during construction or that they impede the implementation of an improved landscape design reflecting the proposed situation.
- 6.3 Installation of tree protection fencing consistent with BS 5837:2012 is specified to protect retained tree cover during construction. The positioning of the fencing is shown by a **bold blue line** in Appendix A. Temporary fencing positions adjacent to Tree Nos. 23-28 are shown by a **bold cyan line**. It is recommended that all tree protection fencing is monitored to ensure its function and integrity.
- 6.4 Proposed hard surfaces will need to be installed using an above soil surface adjacent to Tree Nos. 23 - 28. These areas are shown in Appendix A with a **pink honeycomb hatch**.
- 6.5 It is our opinion that all of the retained tree cover can be integrated within the proposed context and is unlikely to incur foreseeable detriment during construction, dependent upon adherence to the recommendations and tree protection measures described above.

## 6.6 Order of works:

- Trees to be removed should be identified with spray-marker in advance of any tree works occurring on site (ideally with an appointed Site Agent and Tree Contractor in attendance);
- All tree works and removals should be undertaken prior to the erection of tree protection fencing;
- All tree protection fencing must be erected prior to the arrival of construction plant, temporary buildings or materials on site;
- All tree protection fencing should be monitored to ensure its function on a regular basis by an appointed arboriculturalist once works commence on site.

### **Point of Contact:**

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### **Further Reading and Supporting Material:**

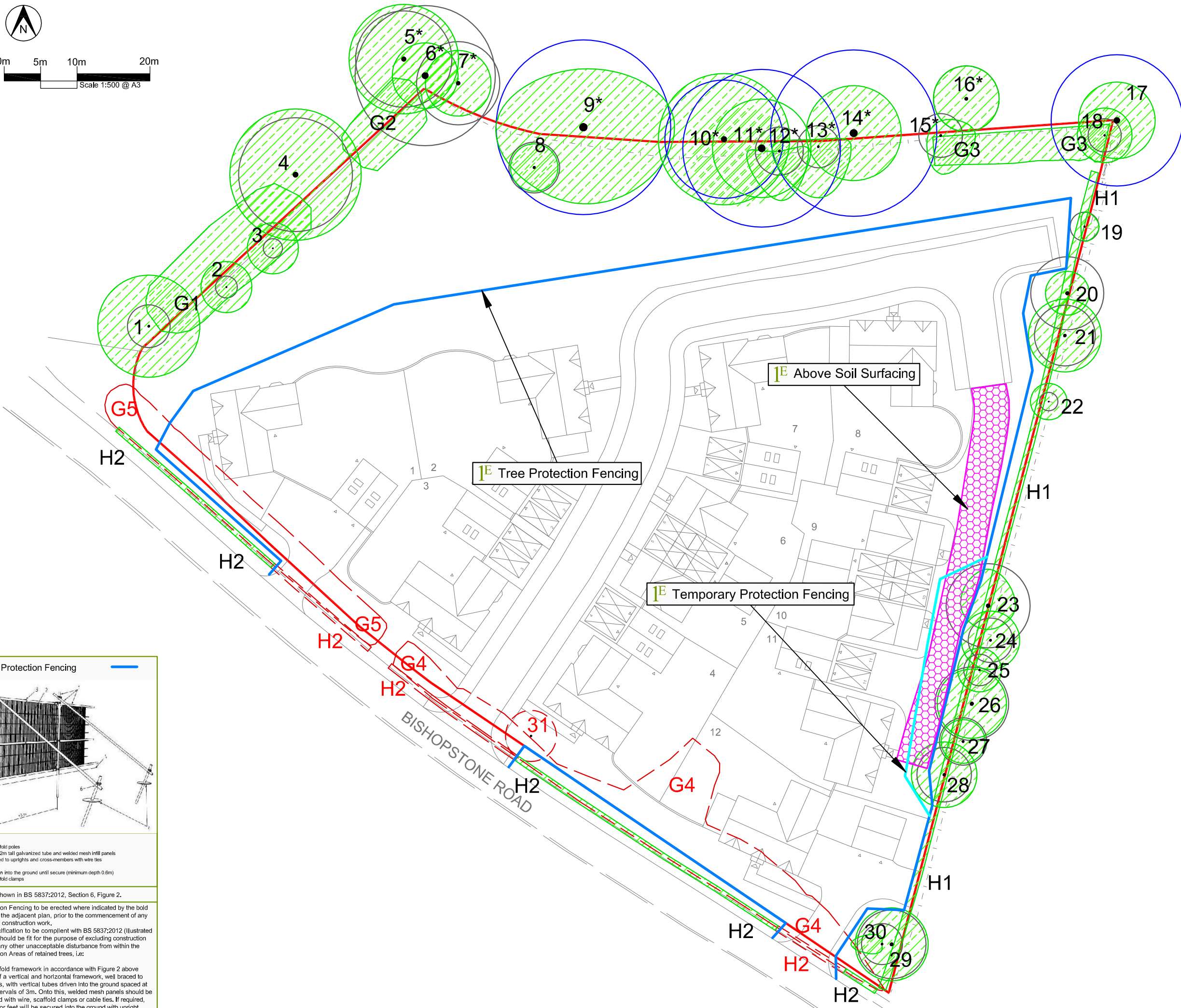
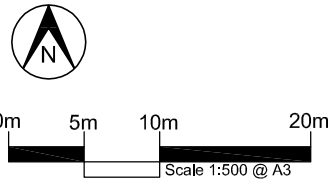
British Standards Institution Publication (2010), *BS 3998: Recommendations for Tree Work*, BSI, London

British Standards Institution Publication (2012), *BS 5837: Trees in Relation to Design, Demolition & Construction*, BSI, London

Roberts J., Jackson N. & Smith M. 2006, *Tree Roots in the Built Environment*, Research for Amenity Trees No.8, TSO, London

## **Appendices**

## **Appendix A** Tree Protection Plan (FE TPP 03)



**Tree Categories and Root Protection Areas (RPAs)**

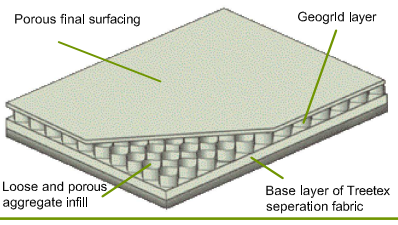
Surveyed trees have been assigned a category in accordance with Table 1 of BS 5837:2012 'Trees in Relation to Design, Demolition and Construction'. The category is indicated on First Environment plans by the colour of the Root Protection Area (RPA). The RPA delineates the minimum rooting area required to enable tree retention. The categories are as follows:

- Category 'A' - Tree of high quality and/or value - Green RPA
- Category 'B' - Tree of moderate quality and/or value - Blue RPA
- Category 'C' - Tree of low quality and/or value - Grey RPA
- Category 'U' - Tree of significantly reduced potential - no RPA unless in third party ownership, then Grey RPA.

**Above Soil Surfacing**

Within the RPAs of retained trees the specification for sections of proposed hard surfacing indicated by a pink hatch is to be as follows:

- A base layer of geotextile membrane will be laid on to the undisturbed existing soil level.
- On top of this, a cellular confinement system (i.e. Cellweb) will be installed and loosely filled into place.
- Clean aggregate must be used to create a loose, porous infill. This may then be used as a temporary access providing that the edges are banked up and the surface prevented from clogging.
- The final wearing course will be retained at its sides using timber edging or railway sleepers secured with road pins/wooden stakes
- Within RPAs, no excavation whatsoever is to be undertaken to enable installation.



**Tree Removal Schedule**

Tree No.	Category	Species	Works
31	C <sub>2</sub>	Wych Elm	

Category C groups of trees G4 & G5 will be removed.  
Category C hedge H2 will be partially removed.

**Tree Pruning Schedule**

Tree No.	Category	Species	Works
23	C <sub>2</sub>	Hawthorn	Cut back to facilitate development
26	C <sub>2</sub>	Flowering Cherry	Cut back to facilitate development
28	C <sub>2</sub>	Hawthorn	Cut back to facilitate development

**Stump Removal**

Unless otherwise stated, all stumps of removed trees are to be removed by grinding. Stumps will be ground to a depth of c.350mm, or at the discretion of a suitably qualified contractor. No vehicle or machine over 0.5 tons is permitted within the RPAs of retained trees unless suitable measures to prevent ground compaction have been agreed with the appointed arboricultural consultant.

**KEY:**

Tree Nos.: 30	Tree Canopies: [Green Hatched]	Trees to be Removed: 31
TPO Tree Nos.: 9*	Tree Protection Fencing: [Blue Line]	Temporary Protection Fencing: [Pink Hatched]
Category 'B' RPA: [Blue Circle]	Category 'C' RPA: [Green Circle]	Above Soil Surfacing: [Pink Hatched]

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**Project/Client:**  
**Bishopstone Road Manor Oak Homes**

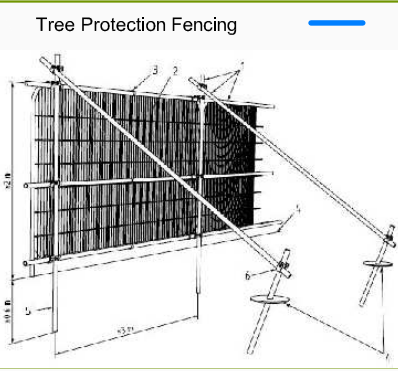
**Based On:** Stone - Site Plan Base

**Title:** Tree Protection Plan

**Drawing No:** 5353 TPP TL 03

Date: 28.11.14 | Drawn: MB | Checked: xx

**Note:** The original of this drawing was produced in colour - a monochrome copy should not be relied upon. Do not scale from this drawing.



**Key**

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

As shown in BS 5837:2012, Section 6, Figure 2.

Tree Protection Fencing to be erected where indicated by the bold blue lines on the adjacent plan, prior to the commencement of any demolition or construction work.  
Fencing specification to be compliant with BS 5837:2012 (illustrated above) and should be fit for the purpose of excluding construction activity and any other unacceptable disturbance from within the Root Protection Areas of retained trees, i.e:

- A scaffold framework in accordance with Figure 2 above comprising of a vertical and horizontal framework, well braced to resist impacts, with vertical tubes driven into the ground spaced at maximum intervals of 3m. Onto this, welded mesh panels should be securely fixed with wire, scaffold clamps or cable ties. If required, fence bases or feet will be secured into the ground with upright scaffold tubes. Panels supported on unsecured rubber or concrete feet are not resistant to impact and should not be used.

**Appendix B** Tree Schedule (FE TS 01)



# LAND ADJACENT TO BISHOPSTONE ROAD, STONE

## TREE SCHEDULE

Each entry will contain the following information (dependent upon access):

1. **Tree No:** Allocated tree number (a Tree Preservation Order may be signified by a 'TPO' suffix);
2. **Species:** Common names are shown;
3. **Height:** Height of each tree/group in metres to centre of upper crown or highest point;
4. **Trunk Diameter:** Measured in millimetres at 1.5m from ground level; multiple stems are measured separately and the values combined; used to calculate the Root Protection Area (RPA); measurements for the same tree are separated by '-' (e.g. 120-140-100);
5. **Crown Spread:** Measured in metres at compass points (e.g. N, E, S, W); dimensions are taken from centre of trunk to edge of canopy; 'up to' crown spreads will be shown with a repeated number;
6. **Crown Clearance:** Height in metres to lowest branch foliage from ground level;
7. **Age Class:**
  - **Young (Y)** (less than 1/3 through typical life expectancy for species);
  - **Middle aged (MA)** (from 1/3 to 2/3 through typical life expectancy for species);
  - **Mature (M)** (over 2/3 through typical life expectancy for species);
  - **Over mature (OM)** (beyond typical life expectancy for species);
  - **Veteran (V)** (of biological, cultural or aesthetic value, usually appears beyond typical age range for species);
  - **Various (VAR)** (contains more than one of the above classes);
8. **Physiology:** Considered to be one of the following: **Average (A)** / **Below average (B)** / **Low (L)** / or **Dead (D)**;
9. **Structure:** Considered to be one of the following: **Good (G)** / **Moderate (M)** / **Indifferent (I)** / **Poor (P)** / or **Hazardous (H)**;
10. **Comments:** A description of general form, including presence of physical defects, disease or decay and other appropriate details based on vitality, context, potential and overall structural integrity;
11. **BS 5837:2012 Category:** Each individual tree, group or collection is assigned a category as defined in Table 1 of BS5837:2012; (Note: a combined rating may be applied where individuals gain a higher category as part of a group or collection);
  - U: Trees recommended for removal; in such a condition that any existing contribution would be lost within 10 years; shown with a **red** canopy edge on First Environment plans;
  - A: Trees of high quality and value; likely to make a substantial contribution for at least 40 years; shown with a **green** RPA on First Environment plans;
  - B: Trees of moderate quality and value; likely to make a significant contribution for at least 20 years; shown with a **blue** RPA on First Environment plans;
  - C: Trees of low quality and value; could remain for at least 10 years until new planting has established; young trees with a stem diameter < 150mm; shown with a grey RPA on First Environment plans.

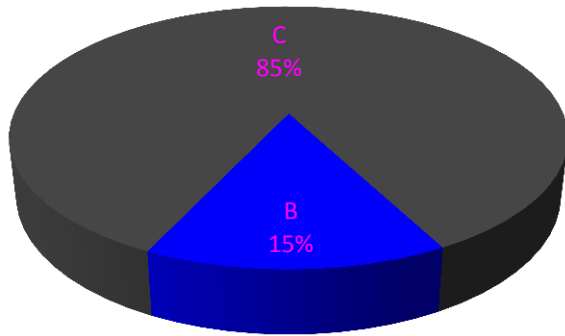
**Note: This schedule does not constitute a health and safety survey. Appropriate additional inspections should be conducted for matters pertaining to health and safety or duty of care requirements.**



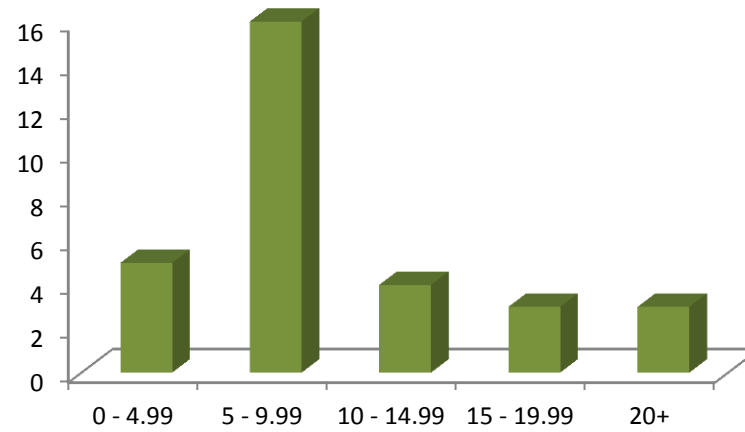
# BS 5837:2012 Tree Schedule

## Quick Reference Guide for Survey Data

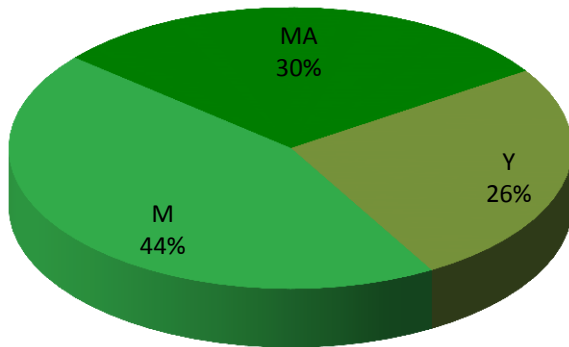
Individual Trees by Category:



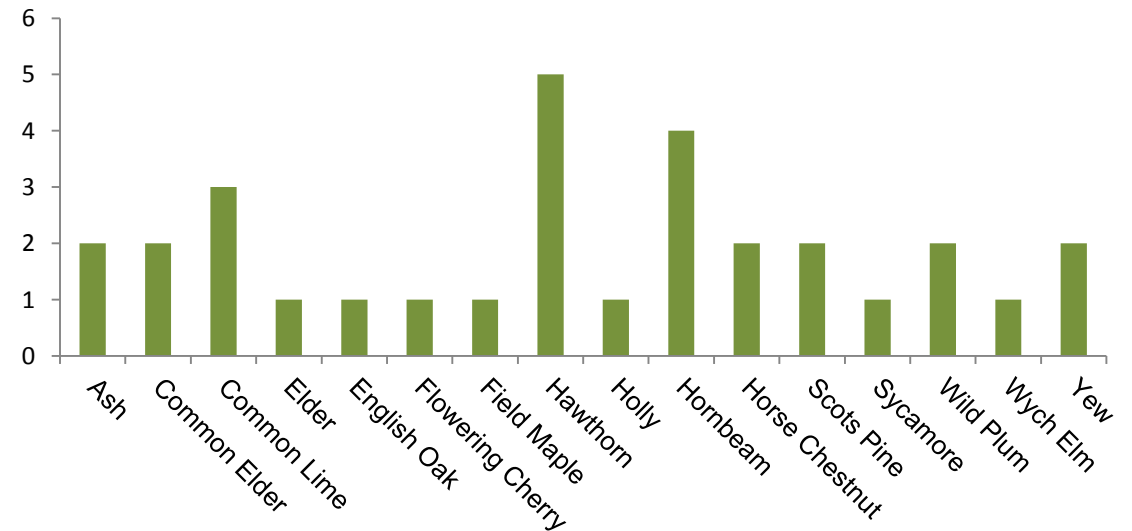
Individual Trees by Height:



Individual Trees by Age:



Individual Trees by Species:



Tree No.	Species	Height (m)	Trunk Diameter (mm)	CS N (m)	CS E (m)	CS S (m)	CS W (m)	Crown Clearance (m)	Physiological Condition	Structural Condition	Age Class	Comments	Category
1	Horse Chestnut	10	110-120-150-100	7	7	7	7	1.5 SE	A	I	MA	Established ornamental planting within rear garden of adjacent property; obscured by wall and very dense Ivy; appears to be multiple stemmed from below 1m; all stems contribute to the crown approx. equally; some large bark disruptions particularly on central stem; these are occluding; no clear signs of staining associated so likely stress cracks; appears to have suffered from leaf miner but infection does not appear to have been severe; currently losing leaves but likely due to the season; will provide length of screen for adjacent residential properties to N; visible from adjacent road and church yard; diameter is estimated as off site and no access.	C12
2	Wild Plum	7	85-90	3.5	3.5	3.5	3.5	0.5	A	I	Y	Pair of establishing likely self set trees; adjacent to northern boundary; suppressed from the N by adjacent trees within residential property; quite a drawn up form; canopies typical for species; likely to be read only as part of the collection even at short distances; of no particular arboricultural merit.	C1
3		6.5	110										
4	Sycamore	15	650	9	9	9	9	0.25	A	I	M	Likely self seeded tree growing within rear garden of residential property; single stout trunk; first large limb arises at c.1.25m to SE and grows out over site; tree however appears to maintain a single lead to at least 7m; scaffold and canopy appear typical for the species within this context; if appropriately managed/maintained is likely capable of making some future contribution; adds height to boundary screen; visible from residential properties to S in views across site; worthy of retention; being off site forms a constraint in any case; diameter is estimated as off site and no access.	C12
5 (TPO)	Scots Pine	20	550	7.5	7.5	7.5	7.5	6.5	A	I	M	Established ornamental planting within rear garden of adjacent property; structure largely typical for the species although there is a suggestion that it has been cut back over built form on the NE quarter; tall tree likely to be visible for some distance S across site and beyond; some die back within upper canopy - reason unclear due to limited visibility; worthy of retention for current benefits it provides; due to signs of ill health only category C; diameter is estimated as off site and no access.	C12
6 (TPO)	Yew	8	800 at base	4.5	4.5	4.5	4.5	1.6	A	I	M	Pair of established trees growing within rear garden of residential property therefore off site and a constraint; diameters estimated; both appear to form multiple stems from at or near ground level; in contact and in many cases have fused to form a single mass; structures and canopies typical or the species within this context; provide a length of screen benefiting residential property; likely to be visible in views beyond site boundaries to S and SE.	C12
7 (TPO)		9	475 at base										
8	Common Elder	5	90-110-90-100-90-10-130	3.25	3.25	3.25	3.25	0	A	I	MA	Established likely self-seeded tree growing at some distance from the boundary; forms multiple stems from at/near ground level; structure and canopy overall typical for the species being dense and untidy; provides length of low level screen; of no particular arboricultural merit.	C12

Tree No.	Species	Height (m)	Trunk Diameter (mm)	CS N (m)	CS E (m)	CS S (m)	CS W (m)	Crown Clearance (m)	Physiological Condition	Structural Condition	Age Class	Comments	Category
9 (TPO)	Horse Chestnut	12	550-600-575	8	12.5	10.5	12	0.5	A	P	M	Established tree growing in rear garden of residential property; appears to be a relatively new build and the tree will pre-date it by some time; first 1.5m of tree obscured by close board fencing; appears to develop 3 large stems from almost ground level; diameter estimated as no access; appears to have main central stem and two significant laterals heading NW and SE; unions obscured by fence; 3 separate limbs almost form 3 canopies; structure is highly atypical; SE stem extends significantly into site with majority forming in that direction; structure is likely to be sound for the short term; likely to need significant works in the future; possibly reduced at several points in the past; starting at c.2m from fence and then again at c.5m from fence; bird nest present at only 1.75m height within site; overall of quite poor form and likely reduced potential; off site so forms a constraint; mature specimen; subject to suitable works could be retained for at least medium term; provides significant screening benefits.	B12
10 (TPO)	Scots Pine	17	675	9	9	9	9	2	A	I	MA	Established ornamental planting within rear garden of residential property so diameter estimated; appears to pre-date house by some time; diameter estimated as no access; first 1.5m obscured by close board fencing; single trunk; appears to maintain single lead for majority of height; significant branching into site arising at c.3m; could be lifted/cut back; likely visible for some distance across the site and boundary to SW; large historic tear out at approx. 3m from trunk on large limb arising at c.6m over site; dead stub still remains; no obvious decay associated.	B12
11 (TPO)	Common Lime	18	900	6.75	6.75	6.75	6.75	1.75	A	I	M	Established ornamental planting; appears to be one of a line of Lime trees on this boundary; diameter estimated as off site within residential property; single stout trunk with large historic tear out wound on SE quarter; base obscured but appears to extend from base to c.2.5m; large piece of decayed wood visible on ground within site with several decaying fungal fruiting bodies present; fungal fruiting bodies also present in old wound which include <i>Pleurotus ostreatus</i> and likely <i>Ganoderma sp.</i> although this is partially obscured due to height; likely to have been topped at c.10m in the past with significant regrowth above; contains average deadwood for the species within this context; shedding leaves so not fully able to assess canopy; structure also appears typical for this context; would benefit from dead wooding; possibly climbed re-inspection once leaves have fallen; offsite so would form a constraint in any case; individually category B due to size and age but also category B as part of an historic line of Limes.	B12

Tree No.	Species	Height (m)	Trunk Diameter (mm)	CS N (m)	CS E (m)	CS S (m)	CS W (m)	Crown Clearance (m)	Physiological Condition	Structural Condition	Age Class	Comments	Category
12 (TPO)	Hornbeam	6.5	275	0	4	6.75	4.25	1	A	P	MA	Growing off site with residential property; first 1.6m obscured by close board fence; appears to have single trunk which is approx. vertical until 1.6m and then develops significant lean over site which continues throughout of scaffold; tree is therefore overall of poor form; reason for this kink likely due to suppression from former large tree to the N in this location; canopy typical for the species; likely to be of reduced potential; provides short length of screen on the boundary.	C12
13 (TPO)	Hornbeam	9	240	1	4.5	7	6.25	0.75	A	I	Y	Established tree growing adjacent to boundary; off site so diameter estimated; single trunk; appears to maintain single lead to c.4m where it forms 3 co-dominant stems; entire scaffold and canopy heavily suppressed by now lost tree to N; canopy otherwise typical for species within this context; capable of making at least some future contribution; likely of reduced potential; provides length of screen on the boundary.	C12
14 (TPO)	Common Lime	20	950	6.5	6.5	6.5	6.5	1.6	A	I	M	Established tree growing within rear garden of residential property; diameter estimated as no access; single trunk; forms multiple stems at c.3m; tree appears to have been regularly maintained in the past however now contains some deadwood within scaffold; structure and typical for species within this context; leaves are in the process of being shed due to time of year; likely visible for some distance in all directions; capable of making a future contribution if appropriately managed/maintained; category B as individual and as part of historic line of trees.	B12
15 (TPO)	Hornbeam	11	250	2	4.75	5.25	1.75	3.75	A	P	Y	Established ornamental planting adjacent to fence line; no access therefore diameter estimated; grows adjacent to old metal fence; appears to have some damage on lower trunk; now fully occluded with no clear signs of any significant decay; trunk is initially vertical then leans into site likely due to suppression from now lost tree; structure and canopy typical for the species within this context; no particular arboricultural merit; provides some screening value.	C12
16 (TPO)	Holly	13	375	4.5	4.5	4.5	4.5	2	A	I	M	Established ornamental planting within rear garden of residential property; diameter estimated as no access; single stout trunk forms 3 stems at 1.75m; union partially obscured by remains of now severed Ivy which appears to extend through much of scaffold; slightly sparse canopy in the upper regions which appears to have been primarily due to the Ivy cover; structure and canopy otherwise typical for species; established tree; likely to be of limited visibility; visible across site to S and POS to E; no particular arboricultural merit but of some age; currently due to gaps in canopy does not qualify for category B due to impaired form; worthy of retention; off site and therefore forms a constraint in any case.	C12

Tree No.	Species	Height (m)	Trunk Diameter (mm)	CS N (m)	CS E (m)	CS S (m)	CS W (m)	Crown Clearance (m)	Physiological Condition	Structural Condition	Age Class	Comments	Category
17	Common Lime	20	750	5.25	5.25	5.25	5.25	6	A	I	M	Growing immediately adjacent to fence within residential property; obscured by very dense epicormic growth and fences making access impossible so diameter estimated; remains of well established Ivy on stem; appears to have been killed but much of it still remains in place; tall established specimen with single trunk which appears to form dominant W/sub-dominant E stems at c.3m; appears to have been repeatedly crown reduced in the past; scaffold now contains deadwood; in process of losing its leaves due to season; appears largely typical for the species; likely visible for some distance in all directions particularly S and E; likely to have once formed part of a line of trees; individually as part of the line worthy of category B.	B12
18	Common Elder	5	190 over Ivy	3.75	3.75	3.75	3.75	2	A	I	MA	Established specimen growing from base of fence line with adjacent recreation ground; Ivy obscures majority of trunk; scaffold and canopy suppressed to N by adjacent more established tree; no particular arboricultural merit; adds short length of screen on the boundary.	C12
19	Hawthorn	3	130-100 over Ivy	2	2	2	0.5	0.5	A	I	M	Pair of established likely former field boundary trees growing between 2 lines of fencing; diameters estimated due to presence of Ivy and proximity of stems making measurement impractical; structure and canopies largely indifferent; T19 in particular partially engulfed by Ivy which should be killed in the near future; provides short lengths of screen between POS to E and site to W.	C12
20		4.5	6 x 170	3	3	3	3						
21	Ash	7	205-190-205	5	5	5	5	0.25	A	I	MA	Established ornamental planting within POS but immediately adjacent to boundary fence; single trunk forms 3 stems between 1 - 1.5m; approx. radial canopy which appears typical for the species; appears to be in good health at current time and therefore of some potential; provides a short length of low level screen between POS E and site W.	C12
22	English Oak	3.75	105	2.5	2.5	2.5	2.5	0.5	A	I	Y	Establishing ornamental planting within POS; adjacent to boundary fence; stake and tie have been removed; tree appears firmly rooted; still of only small stature; likely to be of some potential as no signs of ill health or pathogens at this time; provides short length of low level screen.	C12
23	Hawthorn	6	365-215-185-125	5	3.75	3.25	3.75	1	A	I	M	Established likely former field boundary specimen now grown into small tree; forms multiple stems before 1m; structure and canopy typical for species within this context; provides a length of screen between POS to E and site to W.	C12
24	Field Maple	7	155-125-120-100	4	4	4	4	0.5	A	I	MA	Established ornamental planting adjacent to fence within POS: structure and canopy typical for the species; some suggestions of bacterial canker on E most stem - does not currently appear to be affecting the rest of the tree but would need monitoring into the future; provides short length of low level screen.	C12

Tree No.	Species	Height (m)	Trunk Diameter (mm)	CS N (m)	CS E (m)	CS S (m)	CS W (m)	Crown Clearance (m)	Physiological Condition	Structural Condition	Age Class	Comments	Category
25	Hornbeam	5	180	3	3	3	3	0.5	A	I	Y	Established ornamental planting just within POS but adjacent to fence; appears to be an established specimen which is becoming overwhelmed by adjacent trees; therefore unlikely to be of long term potential; currently does provide some screening benefits.	C1
26	Flowering Cherry	9	420	4.75	4.75	4.75	4.75	1 E 0.5 W	A	I	M	Established ornamental planting just within POS side of fence; single trunk with significant resin bleed particularly on the E quarter - appears to be associated with old pruning wounds and other surface damage; no clear indications of pathogenic infection; this is a possible cause if the wounds have become infected; forms dominant S/sub-dominant N stems at c.1m which are then joined to c.1.5m; structure and canopy typical for the species within this context; one of the more established trees on this boundary; will be visible from residential properties to E across POS and also W across site.	C12
27	Ash	8	270	3	3	3	3	1.5	A	I	MA	Established ornamental planting within POS; single trunk to c.1.5m where it forms dominant W/sub-dominant E stems; union appears sound; drawn up form; likely due to competition with adjacent trees; provides short length of screen on the boundary.	C12
28	Hawthorn	5.5	130-150-180- 120-100 over Ivy	4.5	4.5	4.5	4.5	1.5	A	I	M	Established likely originally hedgerow specimen which has been retained when adjacent hedge has been lost; forms multiple stems from below 1m; diameters estimated due to very dense Ivy and close proximity of stems; scaffold also obscured by Ivy; has already lost its leaves but does appear to contain significant deadwood within the canopy; extension growth appears good; what few leaves are remaining at this time are of typical size therefore deadwood is possibly a function of age; currently provides a low level screen between POS to E and site to W.	C12
29	Hawthorn	4	190-185-100- 270 over Ivy	5	5	5	5	0	A	I	M	Likely remnant hedgerow tree; now growing in corner of field; base and stems partially obscured by dense Ivy as is much of scaffold; tree appears typical in overall terms of structure and canopy; provides short length of low level screen between POS E and site to W.	C12
30	Elder	4	170-160 over Ivy	0.75	0	0.75	4.25	0	A	P	MA	Established likely self seeded specimen; rooted close to the base of adjacent Hawthorn; heavily suppressed by this specimen with majority of canopy forming to W; of poor form but in many ways typical of the species; adds density to screen.	C1
31	Wych Elm	5	125-150	3.5	3.5	3.5	3.5	0	A	I	Y	Likely self seeded tree growing close to S boundary hedge; forms twin stems from ground level; no particular arboricultural merit; likely to be of significantly reduced potential due to Dutch Elm disease (no other large Elms in the vicinity); currently adds height to the boundary screen.	C12

Tree No.	Species	Height (m)	Trunk Diameter (mm)	CS N (m)	CS E (m)	CS S (m)	CS W (m)	Crown Clearance (m)	Physiological Condition	Structural Condition	Age Class	Comments	Category
G1	Various	10	Up to 350	3	3	3	3	0	A	I	MA	Species include Hawthorn, Elder, Dogwood, Leyland Cypress; growing within garden of adjacent residential property but close to boundary; appears to be a section of Leyland Cypress hedge with some established native species such as Elder, Dogwood and Hawthorn also present; appear to be regularly cut back on the residential side but have been allowed to grow into the site somewhat - particularly the Dogwood adjacent to T4; all appear to be suitable candidates for being cut back without causing undue harm; particularly on the SW end of the line much of the scaffold and canopies is obscured by very dense Ivy which also hides the wall which forms the boundary; maintenance is clearly required but being off site trees this is beyond our remit; currently provides a dense low level screen between the proposed site to S and residential properties N; visible beyond site boundaries to S from open space and residential properties.	C12
G2	Leyland Cypress	9	250	5	5	5	5	1	A	I	MA	Established line of conifers which appear to be maintained as a hedge; likely recently topped at 7m but with some regrowth; irregularly maintained on site side; nevertheless forming a dense block of foliage; established feature; likely to be visible beyond S site boundary from residential properties and POS; provides significant screening benefits.	C12
G3	Blackthorn & English Elm	1.75	50	0.5	0.5	0.5	0.5	0	A	I	Y	Appears to be a small collection of possibly planted trees as there is a suggestion of a grid layout; however has many gaps at present time; all appear to have been regularly trimmed to form a block of vegetation which provides low level screen between residential property to N and site to S; no particular arboricultural merit; likely only of short term potential.	C1
G4	Various	3	150	2	2	2	2	0	A	I	Y	Species include Hawthorn, Elder and Elm; collection of vegetation which appears to spread into the field from the hedgerow where maintenance has lapsed; appears to include a very tall Elder which has now collapsed and to have rooted along the fallen trunk and is regenerating well; in arboricultural and in landscape terms of no particular merit being largely obscured by adjacent hedgerow; does add density to the screen; unlikely to be of long term potential; in addition those elements closest to the hedge should be removed to prevent loss of hedgerow form.	C1
G5	Various	5	180-150-130 over Ivy	4	4	4	4	0	A	I	MA	Species include Hawthorn, Elder and Elm; collection of vegetation which appears to spread into the field from the hedgerow where maintenance has lapsed; in arboricultural terms of no particular merit; adds height to the screen; unlikely to be of long term potential.	C1

Tree No.	Species	Height (m)	Trunk Diameter (mm)	CS N (m)	CS E (m)	CS S (m)	CS W (m)	Crown Clearance (m)	Physiological Condition	Structural Condition	Age Class	Comments	Category
H1	Various	1	Up to 60	0.25	0.25	0.25	0.25	0	A	I	Y	Appears to be a recently planted native hedgerow mix; species include Hawthorn, Field Maple, Dogwood, Rose and Hazel; tree guards and bamboo stakes still present; although some elements are likely to have been here for some time as it appears to have been trimmed several times; beginning to form a low level hedge; likely to be of some potential in the future; would require some maintenance works where some of the more recent plantings appear to be partially collapsed/ smothered by vegetation.	C1
H2	Various	1.75	3 x 60	0.5	0.5	0.5	0.5	0	A	I	MA	Regularly trimmed hedgerow feature adjacent to highway; appears currently to be trimmed primarily on S and top faces; likely to have been trimmed on N site/site side in the past; currently maintenance of this edge appears to have lapsed; much of structure is obscured by very dense Ivy which extends through entire hedgerow; does provide dense low level screen between highway S and site N.	C12

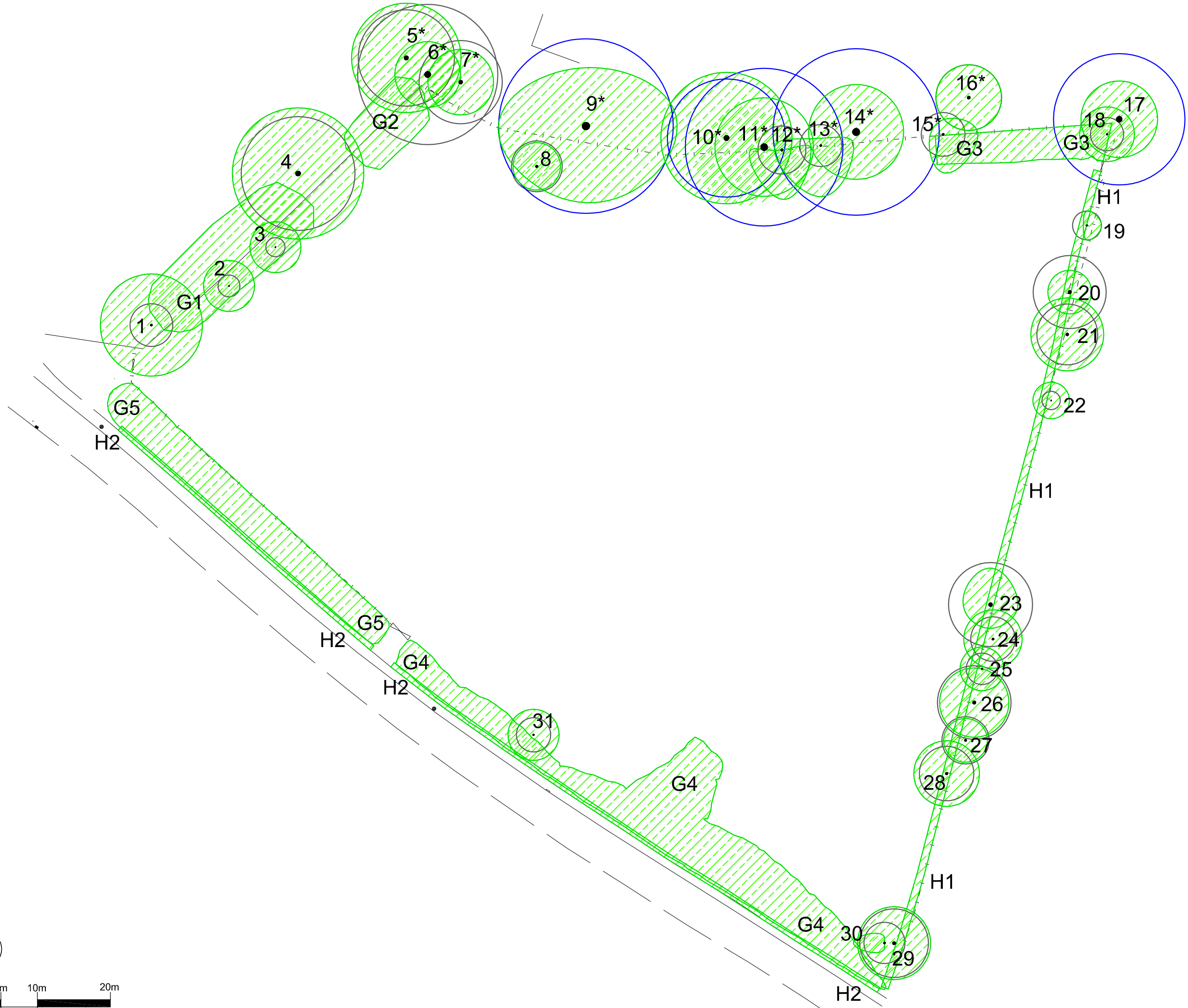


**Appendix C** Tree Location Plan (FE TL 01a)

**Tree Categories and Root Protection Areas (RPAs)**

Surveyed trees have been assigned a category in accordance with Table 1 of BS 5837:2012 'Trees in Relation to Design, Demolition and Construction'. The category is indicated on First Environment plans by the colour of the Root Protection Area (RPA). The RPA delineates the minimum rooting area required to enable tree retention. The categories are as follows:

- Category 'A' - Tree of high quality and/or value - **Green RPA**
- Category 'B' - Tree of moderate quality and/or value - **Blue RPA**
- Category 'C' - Tree of low quality and/or value - **Grey RPA**
- Category 'U' - Tree of significantly reduced potential - no RPA unless in third party ownership, then Grey RPA.



**KEY:**

Tree Nos.: 30	Tree Canopies:	Category 'B' RPA:
TPO Tree Nos.: 9*	Category 'C' RPA:	

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**Project/Client:**  
 Bishopstone Road  
 Manor Oak Homes

**Based On:** 1215\_1363\_1

**Title:** Tree Location Plan

**Drawing No:** 5353 FE TL 01a

Date: 27.10.14 | Drawn: MB | Checked: xx

**Note:** The original of this drawing was produced in colour - a monochrome copy should not be relied upon. Do not scale from this drawing.

