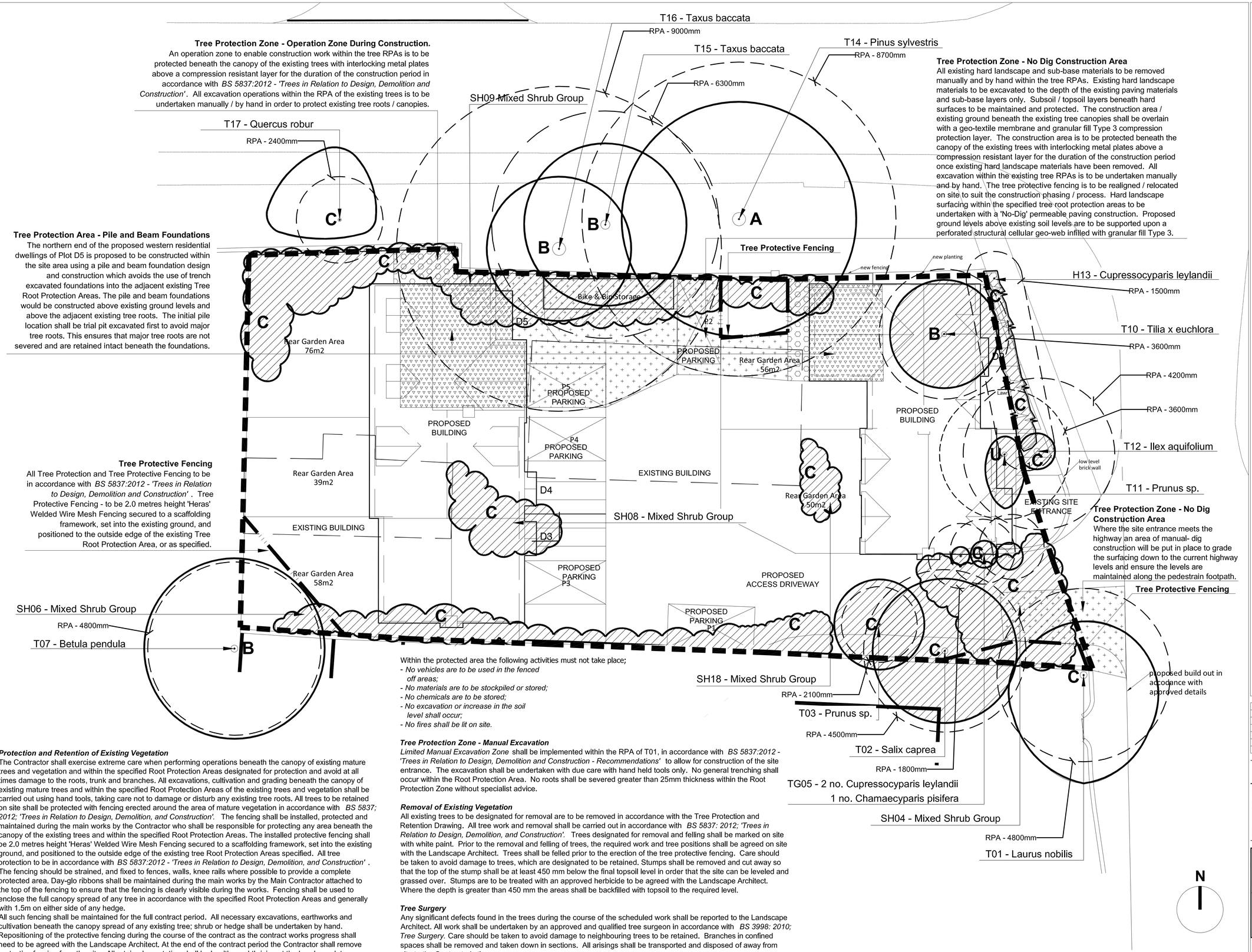


Tree Protection Zone - Operation Zone During Construction.
An operation zone to enable construction work within the tree RPAs is to be protected beneath the canopy of the existing trees with interlocking metal plates above a compression resistant layer for the duration of the construction period in accordance with *BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction'*. All excavation operations within the RPA of the existing trees is to be undertaken manually / by hand in order to protect existing tree roots / canopies.

Tree Protection Area - Pile and Beam Foundations
The northern end of the proposed western residential dwellings of Plot D5 is proposed to be constructed within the site area using a pile and beam foundation design and construction which avoids the use of trench excavated foundations into the adjacent existing Tree Root Protection Areas. The pile and beam foundations would be constructed above existing ground levels and above the adjacent existing tree roots. The initial pile location shall be trial pit excavated first to avoid major tree roots. This ensures that major tree roots are not severed and are retained intact beneath the foundations.

Tree Protective Fencing
All Tree Protection and Tree Protective Fencing to be in accordance with *BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction'* . Tree Protective Fencing - to be 2.0 metres height 'Heras' Welded Wire Mesh Fencing secured to a scaffolding framework, set into the existing ground, and positioned to the outside edge of the existing Tree Root Protection Area, or as specified.

Tree Protection Zone - No Dig Construction Area
All existing hard landscape and sub-base materials to be removed manually and by hand within the tree RPAs. Existing hard landscape materials to be excavated to the depth of the existing paving materials and sub-base layers only. Subsoil / topsoil layers beneath hard surfaces to be maintained and protected. The construction area / existing ground beneath the existing tree canopies shall be overlain with a geo-textile membrane and granular fill Type 3 compression protection layer. The construction area is to be protected beneath the canopy of the existing trees with interlocking metal plates above a compression resistant layer for the duration of the construction period once existing hard landscape materials have been removed. All excavation within the existing tree RPAs is to be undertaken manually and by hand. The tree protective fencing is to be realigned / relocated on site to suit the construction phasing / process. Hard landscape surfacing within the specified tree root protection areas to be undertaken with a 'No-Dig' permeable paving construction. Proposed ground levels above existing soil levels are to be supported upon a perforated structural cellular geo-web infilled with granular fill Type 3.

Tree Protection Zone - No Dig Construction Area
Where the site entrance meets the highway an area of manual- dig construction will be put in place to grade the surfacing down to the current highway levels and ensure the levels are maintained along the pedestrain footpath.

Tree Protective Fencing

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.*

Protection and Retention of Existing Vegetation
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. 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. 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'.* 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. The installed protective fencing shall be 2.0 metres height 'Heras' Welded Wire Mesh Fencing secured to a scaffolding framework, set into the existing ground, and positioned to the outside edge of the existing tree Root Protection Areas specified. All tree protection to be in accordance with *BS 5837:2012 - 'Trees in Relation to Design, Demolition, and Construction'* . The fencing should be strained, and fixed to fences, walls, knee rails where possible to provide a complete protected area. 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. Fencing shall be used to enclose the full canopy spread of any tree in accordance with the specified Root Protection Areas and generally with 1.5m on either side of any hedge.
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. Repositioning of the protective fencing during the course of the contract as the contract works progress shall need to be agreed with the Landscape Architect. 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.

Tree Protection Zone - Manual Excavation
Limited Manual Excavation Zone shall be implemented within the RPA of T01, in accordance with *BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'* to allow for construction of the site entrance. The excavation shall be undertaken with due care with hand held tools only. No general trenching shall occur within the Root Protection Area. No roots shall be severed greater than 25mm thickness within the Root Protection Zone without specialist advice.

Removal of Existing Vegetation
All existing trees to be designated for removal are to be removed in accordance with the Tree Protection and Retention Drawing. All tree work and removal shall be carried out in accordance with *BS 5837: 2012; 'Trees in Relation to Design, Demolition, and Construction'.* Trees designated for removal and felling shall be 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. Trees shall be felled prior to the erection of the tree protective fencing. Care should be taken to avoid damage to trees, which are designated to be retained. 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 leveled and grassed over. 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.

Tree Surgery
Any significant defects found in the trees during the course of the scheduled work shall be reported to the Landscape Architect. All work shall be undertaken by an approved and qualified tree surgeon in accordance with *BS 3998: 2010; Tree Surgery.* 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.

0 1 2 3 4 5 10 15 20 25 metres

Tree Retention and Protection Plan
The Martlets, East Preston, West Sussex

Legend

- Development Area Site Boundary / Survey Area.
- T02 — Tree and Shrub Numbers.
- **Tree Root Protection Areas** Tree Root Protection Areas calculated and specified in accordance with *BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction'*.
- ·A — Category A Trees: Trees of High Quality and Value.
- ·B — Category B Trees: Trees of Moderate Quality and Value.
- ·C — Category C Trees: Trees of Low Quality and Value.
- ·U — Category U Trees: Trees Unsuitable for Retention.
- C — Existing Hedge line and Shrub of Low Quality and Value.
- Existing Trees / Vegetation to be Removed from Site Prior to Tree Protection works / measures.
- **Tree Protective Fencing** All Tree Protective Fencing to be in accordance with *BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction'*; to be 2.0 metres height 'Heras' Welded Wire Mesh Fencing secured to a scaffolding framework, set into the existing ground, and positioned to the outside edge of the existing Tree Root Protection Area, or as specified.
- **Tree Protection Zone - Pile and Beam Foundations** Where the proposed residential dwellings encroach on the RPAs of existing trees the proposed construction method would be using a pile and beam foundation design which avoids the use of trench excavated foundations into the adjacent existing Tree Root Protection Areas.
- **Tree Protection Zone - Operation Zone During Construction.** An operation zone to enable construction work within the tree RPAs is to be protected beneath the canopy of the existing trees with interlocking metal plates above a compression resistant layer for the duration of the construction period in accordance with *BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction'*. All excavation operations within the RPA of the existing trees is to be undertaken manually / by hand in order to protect existing tree roots / canopies.
- **Tree Protection Zone - No Dig Construction Area** All existing hard landscape and sub-base materials to be removed manually and by hand within the tree RPAs. The construction area / existing ground beneath the existing tree canopies shall be overlain with a geo-textile membrane and granular fill Type 3 compression protection layer. The construction area is to be protected beneath the canopy of the existing trees with interlocking metal plates above a compression resistant layer for the duration of the construction period once existing hard landscape materials have been removed. All excavation within the existing tree RPAs is to be undertaken manually and by hand. The tree protective fencing is to be realigned / relocated on site to suit the construction phasing / process. Hard landscape surfacing within the specified tree root protection areas to be undertaken with a 'No-Dig' permeable paving construction. Proposed ground levels above existing soil levels are to be supported upon a perforated structural cellular geo-web infilled with granular fill Type 3.

Rev	Description	Date	Initials
00	Planning Issue	09.01.15	TB
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Project title
The Martlets
East Preston, West Sussex

Drawing title
Tree Retention & Protection Plan

Scale	Drawn	Date
1:100@A1	TB	09.01.15
	Approved	

Drawing No	*Revision*
LLD792 / 02	00

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