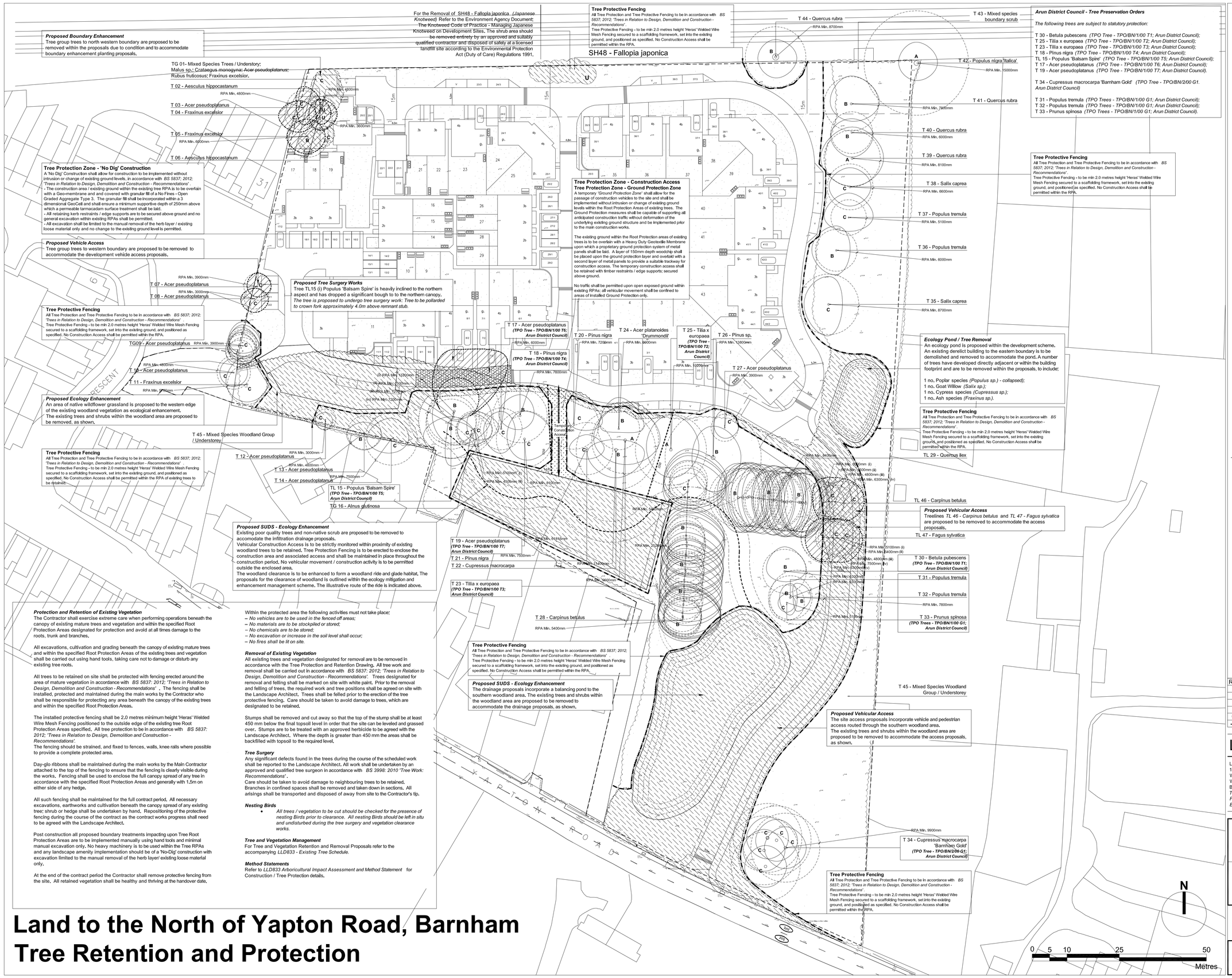

Protection and Retention of Existing Vegetation

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 - 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.

The installed protective fencing shall be 2.0 metres minimum height 'Heras' Welded Wire Mesh Fencing 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 - Recommendations'.*
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.

Post construction all proposed boundary treatments impacting upon Tree Root Protection Areas are to be implemented manually using hand tools and minimal manual excavation only. No heavy machinery is to be used within the Tree RPAs and any landscape amenity implementation should be of a 'No-Dig' construction with excavation limited to the manual removal of the herb layer/ existing loose material only.

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.

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.*

Removal of Existing Vegetation

All existing trees and vegetation 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 - Recommendations'.* 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 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.

Nesting Birds

- *All trees / vegetation to be cut should be checked for the presence of nesting Birds prior to clearance. All nesting Birds should be left in situ and undisturbed during the tree surgery and vegetation clearance works.*

Tree and Vegetation Management

For Tree and Vegetation Retention and Removal Proposals refer to the accompanying *LLD833 - Existing Tree Schedule.*

Method Statements

Refer to *LLD833 Arboricultural Impact Assessment and Method Statement* for Construction / Tree Protection details.

Land to the North of Yapton Road, Barnham
Tree Retention and Protection

Legend

- **Existing Trees to be Retained and Protected on Site**
- **Existing Trees to be Removed from Site Prior to Protection**
- **Existing Shrub Planting Areas to be Retained and Protected on Site**
- **Existing Shrub and Hedge Planting Areas to be Removed from Site Prior to Protection**
- **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 - Recommendations'*
- **Category U Trees; Trees Unviable for Retention**
- **Category A Trees; Trees of High Quality and Value.**
- **Category B Trees Trees of Moderate Quality and Value.**
- **Category C Trees Trees of Low Quality and Value.**
- **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 - Recommendations'*.
  Tree Protective Fencing - to be min 2.0 metres height 'Heras' Welded Wire Mesh Fencing secured to a scaffolding framework set into the existing ground, and positioned as specified. No Construction Access shall be permitted within the RPA.
- **Tree Protection Zone - 'No Dig' Construction**
  A 'No Dig' Construction shall allow for construction to be implemented without intrusion or change of existing ground levels, in accordance with *BS 5837; 2012; "Trees in Relation to Design, Demolition and Construction - Recommendations'* .
  - The construction area / existing ground within the existing tree RPA is to be overlain with a Geo-membrane and and covered with granular fill of a 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 (250mm - vehicular access / 100mm - pedestrian access) above which a permeable surface treatment shall be laid.
  - All retaining kerb restraints / edge supports are to be secured above ground and no general excavation within existing RPAs shall be permitted.
  - All excavation shall be limited to the manual removal of the herb layer / existing loose material only and no change to the existing ground level is permitted.
- **Tree Protection Zone - Construction Access Tree Protection Zone - Ground Protection Zone**
  A temporary *'Ground Protection Zone'* shall allow for the passage of construction vehicles to the site and shall be implemented without intrusion or change of existing ground levels within the Root Protection Areas of existing trees. The Ground Protection measures shall be capable of supporting all anticipated construction traffic without deformation of the underlying existing ground structure and be implemented prior to the main construction works.
  The existing ground within the Root Protection areas of existing trees is to be overlain with a Heavy Duty Geotextile Membrane upon which a proprietary ground protection system of metal panels shall be laid. A layer of 150mm depth woodchip shall be placed upon the ground protection and overlaid with a second layer of metal panels to provide a suitable trackway for construction access. The temporary construction access shall be retained with timber restraints / edge supports; secured above ground.
  No traffic shall be permitted upon open exposed ground within existing RPAs; all vehicular movement shall be confined to areas of installed Ground Protection only.
- **Tree Protection Zone - Trenchless Excavation**
  Soakaway pipework is to be made through the Root Protection Area of existing trees. The pipework is to be routed through RPAs of existing trees to be retained. A *Trenchless Excavation* method shall be employed through micro-tunnelling / directional drilling to accommodate the pipe runs.
  (Refer to drainage engineering detailed specification - ES1504 502-00.)

Rev	Description	Date	Initials
04	Planning Issue	24/06/15	KM
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Project title
Land to the North of Yapton Road,
Barnham, West Sussex

Drawing title
Tree Retention and Protection

Scale	Drawn	Date
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	Approved	

Drawing No **LLD833 / 02**
Revision 04
CAD Filename
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