

Protection and Retention of Existing Vegetation

The Contractor is to exercise extreme care when undertaking operations below the canopy of existing trees / vegetation and within the specified Root Protection Areas designated for protection and at all times avoid damage to the roots, trunk and existing tree architecture.

Any excavations, cultivation and grading below the canopy of existing trees and within the specified Root Protection Areas of the existing trees / vegetation is to be carried out using hand tools only, taking great care not to damage or disturb any existing tree roots.

Tree roots measuring <25mm may be severed using specialist hand tools only and to the absolute minimum extent required - wherever possible tree roots must be left intact. Exposed roots should be immediately wrapped in dry hessian sacking or coconut matting in order to prevent drying and as a temporary measure can be surrounded with a loose granular fill prior to backfilling with the excavated topsoil.

All trees to be retained on site are to be protected with fencing erected around the area of vegetation in accordance with the guidelines as laid out in *BS 5837: 2012; 'Trees in Relation to Design, Demolition and Construction - Recommendations'* and as specified. The fencing is to be installed and maintained during the entire construction program by the contractor who will be responsible for ensuring the area below the canopy of existing trees and within the specified Root Protection Areas is protected at all times.

The installed protective fencing is to be 2.0 metres height 'Heras' Welded Wire Mesh Fencing (or similar and approved) secured to a scaffolding framework, set into the existing ground and positioned to the outside edge of the existing tree Root Protection Areas as specified. All tree protection to be in accordance with *BS 5837:2012 - 'Trees in Relation to Design, Demolition, and Construction recommendations'*. The fencing is to be fixed securely and where possible attached to fences, walls, knee rails etc to ensure a robust temporary fenceline and a completely protected area.

Day-glo ribbons or similar are to be attached to the top of the fencing to ensure it is clearly visible and these will be maintained for the entirety of the construction program by the main contractor. Fencing will enclose the full tree root protection areas as specified and generally 1.5m to either side of any hedge.

All tree protection fencing is to be maintained for the full contract period. All excavations, earthworks and cultivation within the specified tree root protection areas and below the canopy spread of any existing tree; shrub or hedge will be undertaken with hand tools only. Repositioning of the protective fencing during the course of the construction works as the contract works progress will be with the approval of the Landscape Architect.

following the completion of the construction works, the Contractor will remove all temporary protective fencing from the site. All retained vegetation is to be healthy and thriving at the handover date. Within the specified tree root protection 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 / increase in soil levels will occur;
- No fires shall be lit on site.

Lifting of Existing Hard Surfaced Areas

The removal of any existing hard surface layer within the tree root protection areas should be undertaken taking care to ensure the existing tree roots remain undamaged. Any operations should be undertaken manually and with hand tools (suitable machinery may be used in consultation with the landscape architect) and should be accomplished by working backwards to ensure the resulting, exposed ground is not compacted.

Demolition of Structures

Trees close to structures which are scheduled to be demolished within RPAs should be selectively pruned (Tying back branches to achieve a clear working space should also be considered as an alternative) in order to prevent accidental damage. Movement of machinery is to be restricted to areas outside of designated RPAs, areas with ground protection or from within the existing building footprint. Where trees are in close proximity to structures they should be demolished using a 'top down pull back' method. Any below ground structures within existing Tree RPAs (eg foundations) should be left in situ to prevent accidental damage to tree roots.

Removal of Existing Vegetation

All existing trees 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 are to be agreed on site with the Landscape Architect. Trees designated for removal are to be felled prior to the erection of any tree protective fencing. Great care should be taken to avoid damage to trees which are designated to be retained.

Stumps are to be removed and cut away so that the top of the stump is at least 450 mm (minimum) 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.

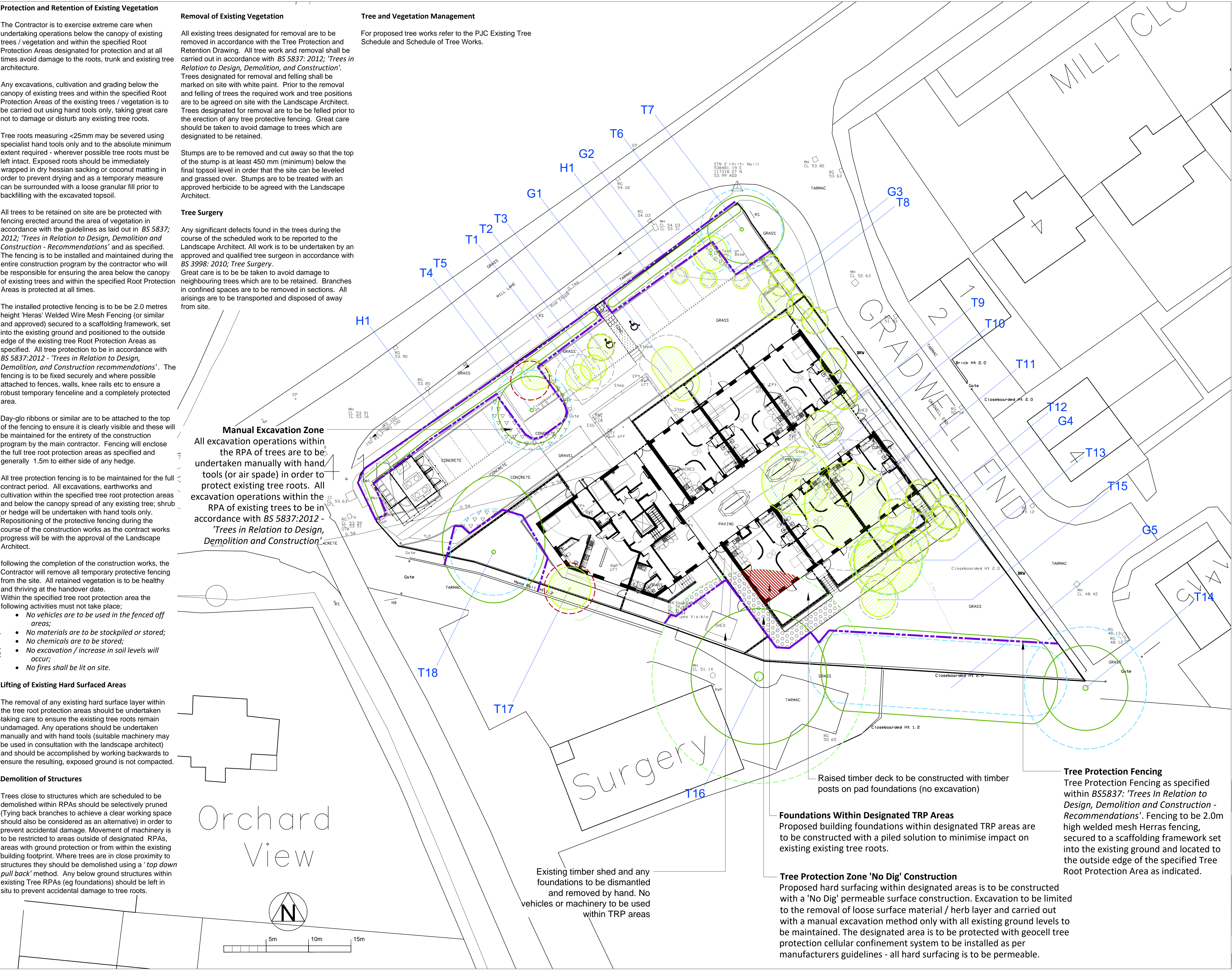
Tree Surgery

Any significant defects found in the trees during the course of the scheduled work to be reported to the Landscape Architect. All work is to be undertaken by an approved and qualified tree surgeon in accordance with *BS 3998: 2010; Tree Surgery*. Great care is to be taken to avoid damage to neighbouring trees which are to be retained. Branches in confined spaces are to be removed in sections. All arisings are to be transported and disposed of away from site.

Manual Excavation Zone
All excavation operations within the RPA of trees are to be undertaken manually with hand tools (or air spade) in order to protect existing tree roots. All excavation operations within the RPA of existing trees to be in accordance with *BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction'*.

Tree and Vegetation Management

For proposed tree works refer to the PJC Existing Tree Schedule and Schedule of Tree Works.



KEY

- Proposed Residential Dwellings**
- Tree and Shrub Numbers**
Tree No. / Category / Tree Root Protection Area
- Category A Trees**
Existing trees (root protection areas) assessed to be 'Category A': high quality and value.
- Category B Trees**
Existing trees (root protection areas) assessed to be 'Category B': moderate quality and value
- Category C Trees**
Existing trees (root protection areas) assessed to be 'Category C': low quality and value
- Category U Trees**
Existing trees (root protection area) to be removed.
- Existing Trees Proposed to be Retained**
Existing trees to be retained and protected within the proposed development scheme. Refer to PJC Schedule and report for further details.
- Existing Trees Proposed to be Removed**
Existing trees proposed to be removed to facilitate the proposed scheme.
- Tree Protection Fencing**
Tree Protection Fencing as specified within *BS5837: 'Trees in Relation to Design, Demolition and Construction - Recommendations'*. Fencing to be 2.0m high welded mesh Herras fencing, secured to a scaffolding framework set into the existing ground and located to the outside edge of the specified Tree Root Protection Area as indicated.
- Tree Protection Zone 'No Dig' Construction**
Proposed hard surfacing within designated areas is to be constructed with a 'No Dig' permeable surface construction. Excavation to be limited to the removal of loose surface material / herb layer and carried out with a manual excavation method only with all existing ground levels to be maintained. The designated area is to be protected with geocell tree protection cellular confinement system to be installed as per manufacturers guidelines.
- Manual Excavation Zone**
All excavation operations within the RPA of trees are to be undertaken manually with hand tools (or air spade) in order to protect existing tree roots. All excavation operations within the RPA of existing trees to be in accordance with *BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction'*.
- Foundations Within TRP Areas**
Proposed building / wall foundations are to be constructed with a piled solution to minimise impact on existing existing tree root protection areas.

NOTES
All tree surgery works are to be carried out by an appropriately qualified tree surgeon to *BS 3998: 2010; Tree Surgery*.
Refer to accompanying *PJC Arboriculture Report and Existing Tree Schedule* for further details.

The original of this drawing was produced in colour - a monochrome copy should not be relied upon.

The information contained within this drawing and accompanying *Existing Tree Schedule* is not intended as a safety audit and should not be interpreted as such.

PROPOSED FOUNDATION DESIGN
Foundations for the proposed building (within designated tree root protection areas) are to be designed to minimise impact (excavation) on existing tree roots with the use of piles. All piling operations are to be carried out following the localised removal of the top 500mm of topsoil by hand - using manual tools only to ensure impact on existing roots is minimised. Existing levels are to be maintained as per existing.

No machinery / vehicles / plant (tracked or wheeled vehicles) are to be deployed within soft or unmade ground within designated TRP Areas.

PROPOSED NO DIG CONSTRUCTION
Proposed pedestrian hard surfacing within designated TRP areas is to be constructed with a 'No Dig' construction method. A three dimensional geocell web (depth to be specified by civil engineer) is to be installed over a heavy duty, permeable separation textile. The geocells are to be filled with permeable Type 03 aggregate (no fines). Edges to the proposed geo-grid (within designated areas) are to be restrained with timber boards which are to be fixed with wooden stakes which are fixed to the outer edge of the timber board edging. Any hard surfacing is to be permeable.

The 'No Dig' pedestrian path is to be installed above existing ground levels, with excavation within designated Tree Root Protection Areas to be limited to the removal of loose surface material and herb layer only by *manual excavation method* (hand tools). All operations shall be non-intrusive in order to maintain the existing levels within the Tree Root Protection Areas.

FENCING
All fencing within designated Tree Root Protection Areas is to be installed manually using hand tools only.

REV	DESCRIPTION	DATE	INITIALS
01	Layout updated following architectural revisions	17-10-18	AR

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Project Title: Greenacres, South Chailey, East Sussex Sunninghill Construction		
Drawing Title: Tree Protection Drawing		
Scale: 1:200@A1	Drawn: AR	Date: 02-10-18
Drawing Number: RCO 258 / 04	Revision: 01	