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Landscape Design and Ecology

ARBORICULTURAL IMPACT ASSESSMENT & METHOD STATEMENT

Land at Pucks Croft Cottage, Rusper, West Sussex

On Behalf of: ECE Planning

Client:	ECE Planning			
Project:	Land at Pucks Croft Cottage, Rusper, West Sussex			
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1.0 INTRODUCTION

- 1.1 Lizard Landscape Design and Ecology (LLDE) has been commissioned by ECE Planning to undertake an Arboricultural Impact Assessment & Method Statement for the proposed development at Land at Pucks Croft Cottage, Rusper, West Sussex (hereinafter referred to as the site).
- 1.2 The principal aim of this report is to detail construction control measures to protect retained trees and tree groups (including hedgerows) within, and adjacent to, the site in accordance with British Standard (BS) 5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations'.
- 1.3 This report has been produced based upon a BS 5837:2012 Arboricultural Survey undertaken by this company on the 15th of May 2024– this survey information is presented in Appendix A and summarised in section 1.8 below.
- 1.4 This report, and accompanying Tree Schedule and Tree Retention and Protection Plan, sets out the arboricultural impacts of the proposals using the following considerations as a framework:
- Trees to be removed and trees to be retained.
 - Remedial tree work to retained trees to allow development to take place.
 - Suitable measures to protect retained trees.
 - Special construction or engineering measures are required to enable trees to be integrated into the proposed development where impacts are unavoidable.

Existing Site Information

- 1.5 The site consists of land adjacent to the detached domestic property 'Pucks Croft Cottage' (but excluding the cottage itself and a small store building), a wooden barn/stable, hard landscape access areas, garden areas and a grassland paddock. The site is bordered with fences, hedges and trees forming a woodland edge.
- 1.6 The north-western boundary borders Horsham Road; the northern and eastern boundaries border extensive open grassland gardens; the southern boundary borders an area of open space known as Baldhorns Copse, and the western boundary borders an area of deciduous woodland.

- 1.7 The site is approximately 5.85 meters above sea level and measures just under 0.5 Ha. Soils on site are described as slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils.

Existing Site Vegetation

- 1.8 The site contains gardens with small ornamental trees. The majority of the site is devoid of trees, with several patches of dense scrub and a scrubby hedge to the frontage present. The site is lined along the southwestern edge with mature trees, just beyond which is deciduous woodland. Outside the eastern boundary are high-value mature oak trees whilst in the adjacent property to the north there are two trees which overhang the access slightly.
- 1.9 A summary of the relative retentive worth of the trees on site, as recorded during the tree survey and expressed by their categories, is given in Table 1.

Table 01 – Summary of Existing Site Vegetation

BS Category	No of Trees	No of Groups	No of Hedges	Total
A	1	2	0	3
B	3	2	0	5
C	6	2	5	13
U	0	0	0	0

Development Proposals

- 1.10 The development proposal seeks approval for the erection of 4no. dwellings, extension to existing cottage and improvements to the access and provision of landscaping. The existing cottage will be extended and refurbished.

2.0 ARBORICULTURAL IMPACT ASSESSMENT

2.1 This impact assessment is intended to evaluate the direct and indirect impacts on the trees on the site in relation to the proposed development. Any potential tree impacts below have been identified as per BS5837:2012 section 5.4, and details are given of proposed mitigation.

Removal of Trees and Vegetation

2.2 The development has been designed to avoid tree losses as far as possible, however, a small number of trees shall require removal to facilitate the development. Table 3 below describes the tree losses required to facilitate the development. Trees to be retained and removed are shown on the TRPP in Appendix B.

Table No. 02 – Trees and Hedges Proposed for Removal

BS Category	Tree/Group/Hedge Numbers	Total
C	T05, T06 H20 & H21	4

2.3 **T05** - *Malus sp*; C, RPA min. 3.6 m, will need to be removed to accommodate the development proposals.

2.4 **T06** - *Laurus nobilis*; C, RPA min. 4.5 m, will need to be removed to accommodate the development proposals.

2.5 **H20** - Hedgerows and Shrubs; C, RPA min. 1.2 m, will need to be removed to accommodate the entrance and the required visibility splays.

2.6 **H21**- This is a partial removal of 48m of hedgerow from the southern end and the removal of 12m from the northern end.

2.7 An area of low-value scrub will also be removed. The vegetation here is too small to be considered trees.

Tree Pruning, Canopy Reduction, or Lifting

- 2.8 With the proposals, there is no requirement for any tree either on site or to the boundaries of the site to have tree surgery.

Construction access and storage

- 2.9 In the absence of mitigation, vehicular access might compact soils, harming tree roots. To avoid these impacts, there shall be a defined access route to and from all construction areas, and ground protection areas where access over RPAs is required.
- 2.10 Inappropriate storage of liquids such as fuel, paint or cleaning chemicals might result in spillages with a significant impact upon high value and or TPO trees. All such liquids will be stored at least 5.0 m from any RPA, and outside of any RPAs. Bunded containers with spill kits will be required and used to minimise the risk of spillage. This must be present on site before any work starts including ground preparations and tree works.

Compaction of Root Protection Areas

- 2.11 The vast majority of trees to the boundaries of the site are being retained and will be protected using Tree Protective Barriers to prevent any incursion into the root protection area (RPA). A small number of trees, however, will require enabling works and/or an operation zone within their RPAs. Trees which would be impacted are detailed below:
- 2.12 **T01** - *Pinus sp*; B, RPA min. 6.0 m, and **T02** - *Juglans regia*; C, RPA min. 6.0 m. There shall be potential for impacts to occur by the proposed site access and drainage route in the same location. **TG07** - *Quercus robur*; A, RPA min. 7.2 m, shall be impacted by the required scaffolding installation for Plot 6. In the absence of mitigation negative impacts would occur in the form of; root damage which would facilitate pathogen colonisation and anchorage forces, loss of rooting area resulting in a reduction in water and nutrient availability, soil compaction resulting in a reduction of overall resources available to the tree and potential soil contamination. Collectively these impacts can cause a significant loss in overall vitality, possibly causing the decline of the tree. To minimise impacts, ground protection measures, as detailed in the below Arboricultural Method Statement shall be in place for the duration of the construction period in accordance with BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'. When construction work is

complete the ground protection can be removed. The location of required ground protection measures are shown in Appendix B.

Demolition within Root Protection Areas

- 2.13 In the absence of mitigation, the RPA of **T01** (B) and **T02** (C) could be disturbed through the removal of existing hard surfaces using inappropriate methods, to the far western edge of the RPAs. The removal of existing hard surfaces may sever significant roots leading to decline and ultimately the failure of these trees if mitigation is not implemented, the ground is excavated to level the area and non-porous materials used within new hard surfaces. Mitigation measures including the manual removal of hard surfaces and the use of ground protection measures where required shall minimise harm to these trees and ensure their retention. It is proposed to carefully break up surfaces under arboricultural supervision, whereupon any subbase or other such materials below will be manually dug out where necessary. Areas of manual excavation are shown in Appendix B.

Installation of services

- 2.14 There will be potential significant negative impacts to multiple high-quality trees when it comes to the installation of services due to the proximity of proposed dwellings and gardens to trees and tree groups. Trenching will not be possible without significant negative impacts and disturbance. All services installation will need to avoid RPAs as this normally involves an amount of trenching. Should any service installation be required in the RPA a specialist method statement would need to be provided.
- 2.15 A section manhole installation will need to be constructed to the very edge of a small section of the RPA of **H21**. While working within the RPA of **H21**, a Limited Manual Excavation Zone shall be implemented, in accordance with BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction'. Excavations will be carried out using handheld tools only, in order to monitor the presence of roots within the edge of the rooting zone. Additional ground protection will be required in this area. Ground protection- Protection requirements in this area are for pedestrian access only. Light to Moderate Duty Ground Protection Access Mats of Medium Density Polyethylene (HDPE) are recommended. These requirements can be seen in Appendix B, the TRPP drawing.

2.16 An excavation for the installation of the drainage system will also be required to the far western edge of the RPAs of **T01** (B) and **T02** (C). In the absence of mitigation, this process could sever significant roots leading to decline and ultimately the failure of these trees if mitigation is not implemented. It is proposed to carefully break up surfaces under arboricultural supervision, whereupon any subbase or other such materials below will be manually dug out where necessary to reach the required depth for the drainage pipes to be installed. Areas of manual excavation are shown in Appendix B.

Future Pressures to Retained Trees and Hedges

2.17 The resulting proximity of the new structures to retained trees and hedgerows may result in the following pressures.

- the ongoing need to prune the canopy back to prevent damage to the building and facilitate maintenance of the building façade and glazing.
- altered soil conditions including access to water and gas exchange, resulting from proposed surfacing and construction of foundations.
- shading of the canopy of existing trees.

2.18 **T02** - *Juglans regia*; C, RPA min. 6.0 m. The ongoing need to prune the canopy back to prevent it from encroaching into the access road.

2.19 **TG07** - *Quercus robur*; A, RPA min. 7.2 m. The ongoing need to prune the northern side canopy back to prevent it from encroaching into Plot 5.

2.20 **T09** - *Eucalyptus sp.*; C, RPA min. 2.4 m. The ongoing need to prune the canopy back to prevent it from encroaching into Plot 5.

2.21 The majority of these on-going pressures are relatively minor and could be considered as part of general routine maintenance.

Tree and Hedgerow Loss Mitigation Measures

- 2.22 It is recommended that a scheme of soft landscaping is submitted, this should include tree planting details which address any visual public amenity issues. The tree selection should be appropriate to the site conditions and species should be selected in accordance with any recommendations provided in the PEA and any subsequent ecology reports. Ideally, the species selected should be native and of proven ecological value to the local environment.
- 2.23 The locations and positioning of mitigation planting in relation to new or existing buildings should take full account of the final canopy height and spread of all trees included within the scheme. All planting should be located a sufficient distance from the predicted canopy line and rooting zones to avoid future pressures to undertake remedial works.
- 2.24 Provided that mitigation planting is in line with current guidelines and all other protection measures are properly enacted, the loss of trees from the site would be adequately compensated and the proposals would accord with the requirements of BS5837.

Conclusion

- 2.25 The protection, compensation and enhancement detailed herein have been designed to ensure the ongoing favourable status of retained trees and vegetation, and the species which use these. The overall impacts to trees on site are considered to be low and additional adherence to the methods detailed will ensure that all works accord with the relevant wildlife legislation and planning conditions.

3.0 ARBORICULTURAL METHOD STATEMENT

Pre-Construction Meeting

- 3.1 A pre-construction meeting will take place between the Construction Manager and Project Arboriculturalist to discuss the programme of works and the timing and implementation of control measures.

Phasing of Operations

- 3.2 Implementation of tree protection shall be carried out as follows:

- 1) Tree removals and tree surgery
- 2) Tree protection fencing set out by the surveyor in accordance with approved plans.
- 3) Tree protective fencing installed, and any ground protection installed as required.
- 4) Fencing and ground protection are to be inspected by the project arboriculturist.
- 5) Site set up including haulage routes and site compound.
- 6) Demolition / Site clearance followed by construction.
- 7) Inspection of any areas of construction within RPA's by project arboriculturist.
- 8) Removal of tree protective fencing.
- 9) Remedial tree surgery works (if required).

Contractor Induction

- 3.3 The key requirements of this method statement will be explained during site inductions for contractors. Trees and tree groups that are to be retained and protected will be identified before works commence. A copy of the AMS and TTP will be retained in the site offices for reference.

Tree Removal

- 3.4 All trees designated for removal are to be removed in accordance with the Tree Retention and Protection Plan (Appendix B). All tree work and removal shall be carried out in accordance with BS 5837:2012 and BS 3998:2010. Prior to the removal

and felling of trees, the tree positions shall be agreed on site with the Arboricultural Consultant, and trees designated for removal and felling shall be clearly marked on site with white paint. Trees shall be felled prior to the erection of the Tree Protective Fencing. Care should be taken during the tree removal process to avoid any damage to any trees which are designated to be retained.

Arisings should not be disposed of by burning on site unless:

- other options are impracticable, or the material is affected or likely to become affected by a disease or pest for which sanitation is a necessary form of control.
- NOTE: Attention is drawn to regulations made under: The Clean Air Act 1993, The Plant Health Act 1967, The Weeds Act 1959, and the Wildlife and Countryside Act 1981, in respect of the prevention of the spread of plant and soil pests.

Tree Surgery

- 3.5 All tree work as detailed within the Tree Retention and Protection Plan 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.
- 3.6 Stumps to be removed should be cut away so that the top of the stump shall be at least 450 mm below the final topsoil level in order for the site can be reinstalled in accordance with the existing site levels. Where the depth is greater than 450 mm the areas shall be backfilled with topsoil to the required level.
- 3.7 Options for retention of and management of stumps, particularly those arising from dead trees should be considered as these subterranean deadwood habitats are of great ecological benefit. These stumps should not be treated with any form of pesticide or chemical application as this can be detrimental to the remaining trees, and local ecology.
- 3.8 The height of stumps for retention should be determined by management objectives and or site-specific conditions. Stumps should be left in a safe condition and or location that does not pose a hazard.

- 3.9 The removal of shrub or scrub material within the Root Protection Area of any tree to be retained shall employ a Manual Removal method; the use of hand tools shall be used in order to maintain the ground surface of the Root Protection Area and reduce any damage to existing tree roots within the protected root zone. Adjacent trees shall not be utilised as anchors or levers to facilitate the removal of adjacent vegetation.
- 3.10 Vegetation clearance should take place outside the bird nesting season (*nesting season: March-September inclusive*) or alternatively under a watching brief from an ecologist or suitability-qualified professional.

Tree Surgery and Removal Works– Arisings

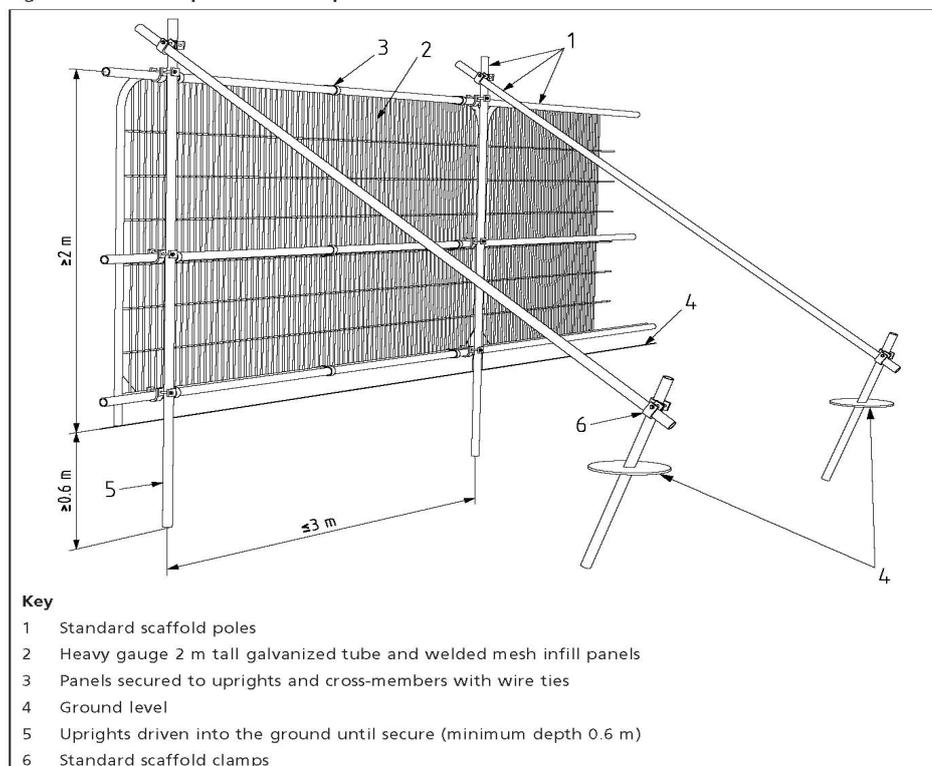
- 3.11 The disposal, utilisation and retention of arisings must be in line with BS 3998: 2010 'Tree Work: Recommendations'. Retaining arisings on or near the site can have conservation benefits and allows the gradual recycling of the mineral nutrients and carbon that they contain. Effective financial gains can be achieved with efficient arisings management planning.
- 3.12 Before any work on a tree commences, it should be agreed on what is to happen to the arisings (such as retained or removed from the site). Any arisings remaining on the site should be stored safely in locations agreed with the client. The following should be taken into account when deciding what is eventually to be done with the arisings:
- Site usage: access, space, and safety;
 - Scope for utilisation (such as use of woodchip for mulch, weed suppressant, etc.)
 - Wildlife and habitat, particularly where veteran trees are present and invertebrate colonisation is likely.
 - The disposal, utilisation and retention of arisings must be in line with BS 3998: 2010 'Tree Work: Recommendations'. Retaining arisings on or near the site can have conservation benefits and allows the gradual recycling of the mineral nutrients and carbon that they contain.

Tree Protection Fencing

- 3.13 All trees to be retained on site shall be protected with barriers installed at the location as shown in the TRPP in Appendix B. The barrier shall be installed, protected and maintained during the main works by the appointed contractor.

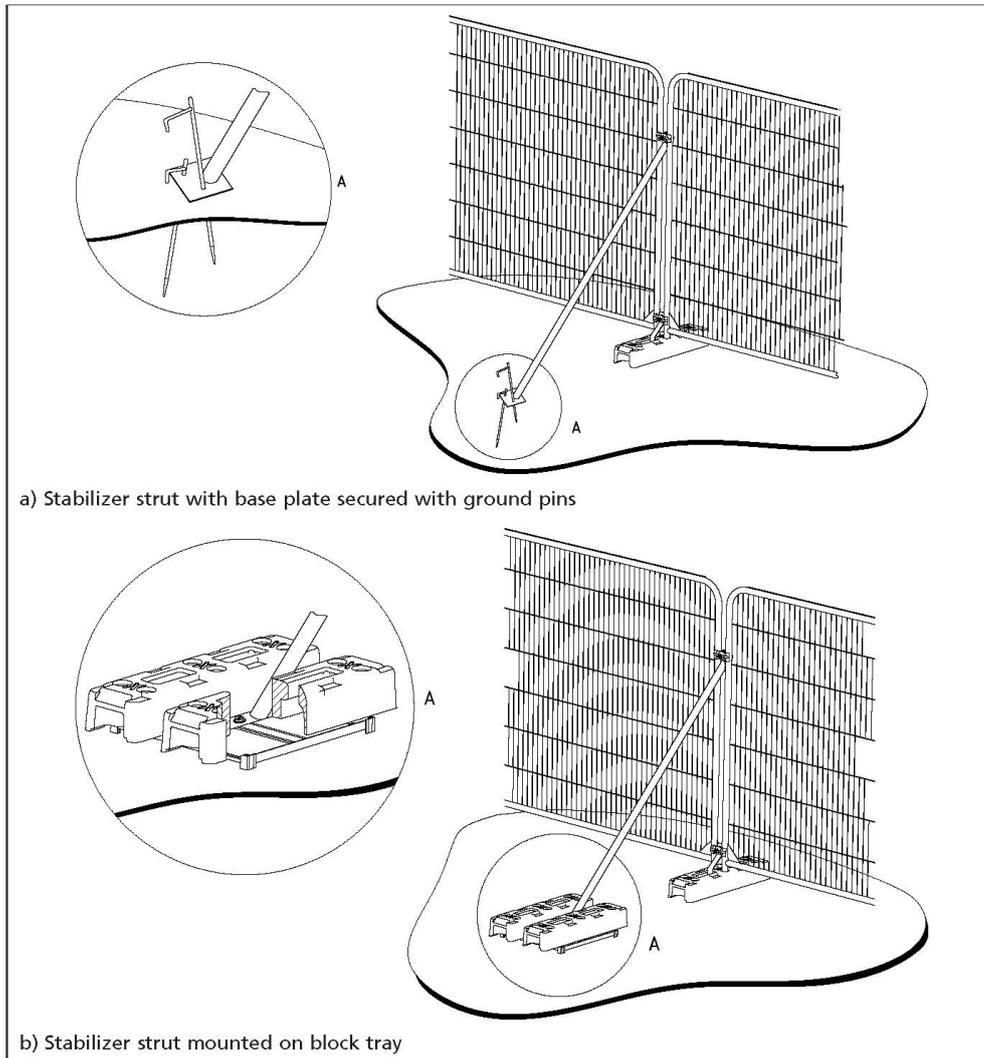
- 3.14 The installed protective barrier shall be 2.0 metres minimum height 'Heras' Welded Wire Mesh Fencing secured to a scaffolding framework, set into the existing ground, and positioned to the outside edge of the existing Tree Root Protection Area. Where existing ground conditions do not allow for the above method, the Welded Wire Mesh Fencing Panels may be mounted on concrete or rubber feet, supported on the inner side with stabilizer struts fixed on a block tray or secured with ground pins, and positioned as specified. The barrier should be strained, and fixed to fences, walls, and knee rails where possible to provide a completely protected area (refer to Figure 2 and Figure 3 below; © British Standards Institute 2012). All tree protection is to be in accordance with BS 5837: 2012; 'Trees in Relation to Design, Demolition and Construction - Recommendations'.
- 3.15 Any requirement for modifications to the prescribed protection fencing specification, for example where installation space is restricted, will be discussed and agreed upon with the Project Arboriculturist before being implemented.

Figure 2 Default specification for protective barrier



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Figure 3 Examples of above-ground stabilizing systems



- 3.16 Day-Glo ribbons shall be maintained during the main works by the Main Contractor attached to the top of the barrier to ensure that the fencing is clearly visible during the works. The tree protection barrier shall display all-weather notices starting '*Construction Exclusion Zone – NO ACCESS*'.
- 3.17 Once installed the protection fencing will be inspected by the Project Arboriculturalist before any construction works begin;
- 3.18 All such barriers shall be maintained for the full contract period. The Construction Manager will be directly responsible for ensuring the protection fencing remains rigid and complete during the entire works programme. Repairs will be acted upon immediately to ensure continued protection.

3.19 Within the protected areas 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.

Site Compound, Haulage Routes and Car Parking

3.20 All site compounds, car parking and haul routes will be located outside of tree protection fencing. The compound area shall be located to not incur damage or injury to the root systems or canopy of any existing trees or vegetation within or adjacent to the site, in accordance with BS 5837:2012 – ‘Trees in Relation to Design, Demolition and Construction – Recommendations’. All site operations associated with the usage of the compound area shall be undertaken with due care and attention to negate damage to the surrounding environment.

Protection and Retention of Existing Trees and Habitats

3.21 The Contractor shall exercise due care when performing operations beneath the canopy of existing mature trees and vegetation designated for protection and avoid at all times damage to the roots, trunk, and branches.

3.22 The Contractor shall train all members of the construction workforce operating within the proximity of valued habitats and make such persons aware that there shall not be, without having sought prior notification, the following operations undertaken within the protected areas:

- Dumping of spoil or rubbish, excavation or disturbance of topsoil, parking of vehicles or plant, storing of materials or placing of temporary accommodation within an area which is the larger of the branch spread of the tree or an area with a radius of half the tree's height, measured from the trunk, and within the specified Root Protection Areas;
- Severance of roots exceeding 25 mm in diameter. If unintentionally severed; notice shall be given, and specialist arboricultural advice sought;
- Changes to the level of the ground within the specified Root Protection Areas;

- Vegetation clearance to site boundaries during the bird nesting season (nesting season: March-September inclusive). Any clearance must be undertaken outside nesting season or alternatively under a watching brief from a suitability-qualified ecologist.

Ground Protection Measures

- 3.23 Where construction operations require activity within the exposed unmade ground of any existing tree Root Protection Area, temporary ground protection measures should be implemented as shown on the TRPP. The ground protection measures should be accurately laid out by a surveyor, and implemented before the main construction works.
- 3.24 Ground protection must be fit for the purpose of supporting the level of traffic entering or using the site within RPAs without being distorted or causing compaction of the underlying soil. The appropriate solutions include:
- For pedestrian movements or the erection of scaffolding within the RPA – a single layer of scaffold boards either on top of a driven scaffold frame, to form a suspended walkway, or on top of a compression-resistant layer, e.g., 100 mm depth of woodchip laid onto a geotextile;
 - For pedestrian-operated plant (up to a gross weight of 2 t) – proprietary, inter-linked ground protection boards or panels laid on top of a compression-resistant layer, e.g., 150 mm depth of woodchip laid onto a geotextile membrane;
 - For vehicular access (exceeding a gross weight of 2 t) – an alternative system subject to the engineer's specification appropriate for expected loads, is designed in consultation with the project Arboriculturist.
- 3.25 The process for installation of ground protection is as follows:
- 1) Discuss the procedure with the project arboriculturist.
 - 2) Dismantle primary protection fencing and re-erect in secondary location as shown in Appendix B.

- 3) Any shrubs, saplings, or trees to be removed, are to be cut, or ground out to just below ground level rather than grubbed or winched out, which can damage the roots of retained trees.
- 4) Lay woven geotextile over existing ground surface by hand.
- 5) Cover the area with a compressible layer, woodchip, for example, using hand tools only.
- 6) Cover the compressible layer with side butting scaffold boards or plywood boards.
- 7) Confirm surface is acceptable for use with the project arboriculturist.
- 8) Area ready for construction access.

Manual Excavation

- 3.26 Where the development proposals necessitate the tying in and re-grading of existing and proposed levels for vehicular access or include the implementation of underground services such as services, cables, and pipe work; a '*Manual Excavation Method*' must be assumed using handheld tools to minimise the impact on existing trees. The excavation should be executed with due care and attention not to disturb exposed unmade ground and any existing tree roots present within it.
- 3.27 Roots over 25mm in diameter or those occurring in clumps must not be severed without Arboricultural advice. Tree roots below such size should be cut cleanly using specialised hand tools only and to the minimum extent to allow provision. All exposed roots should be immediately wrapped in dry Hessian to avoid drying. On completion of the excavation and at the earliest opportunity the wrapping should be removed, and the roots surrounded and protected with a loose granular fill (clean washed sharp sand or topsoil free of contaminants or matter injurious to rooting systems) prior to backfilling the excavation to the desired levels.

Demolition in Proximity to Trees

- 3.28 Sensitive demolition of buildings and structures within RPA's will occur under supervision from the project arboriculturist. Any existing tree protection fencing shall be removed to allow access to the demolition area. Buildings shall be demolished in such a way that the building folds in on itself. Debris may be removed by plant

machinery provided appropriate ground protection is in place and no incursion into unprotected soft ground occurs.

- 3.29 The floor of the building / surrounding hard standing is to be broken up and carefully removed from the RPA. Underlying ground levels are to be retained, and any exposed roots and newly exposed areas of soft ground are to be covered with up to 100mm of topsoil (to BS3882:2015). Soil must be spread by hand to avoid compaction of the RPA. Tree protection fencing must be re-installed at the agreed location on completion of demolition works.
- 3.30 Best practice must be adhered to at all times to avoid any contamination of the soil by fuel or other chemicals. If such a situation arises the project arboriculturist must be notified to assess the situation and prescribe remedial measures.

New Hard surfacing within Root Protection Areas

- 3.31 Where new surfacing and means of access within Root Protection Areas have been proposed, the construction method should be implemented to avoid intrusion into or change of existing ground levels within the tree Root Protection Areas of existing trees.
- 3.32 A 'No Dig' Construction should allow for the paving of specified areas within or adjacent to tree Root Protection Areas to be constructed without disturbance to root systems.
- 3.33 Ground levels should not be raised or lowered within the existing tree Root Protection Areas. A permeable surface treatment should be laid over the existing ground allowing water to permeate and allow for nutrient access and gaseous exchange.
- 3.34 The construction area / existing ground within the existing tree RPA is to be overlain with a geo-membrane and covered with a granular fill of no fines - open-graded aggregate incorporated within a 3-dimensional cellular confinement system. This should ensure a minimum supportive depth of 200mm for vehicular access/ 100mm for pedestrian footpaths, above which a permeable surface treatment should be laid. The pH of the aggregate must be near neutral to avoid damage to pH-sensitive tree species.
- 3.35 Existing paving material overlying the RPA of existing trees should be left undisturbed during the construction period in order to protect the Root Protection Area of the tree

to be retained. The existing paving/ hard standing can then be reused as a base for the proposed surfacing, subject to the Engineer's specification.

- 3.36 All retaining kerb restraints/edge supports are to be secured above ground and no general excavation within existing tree RPAs should be permitted.
- 3.37 Where stepped or ramped access has been proposed within the RPAs of existing trees, this should be constructed with limited disturbance to the existing ground. A raised frame supported upon posts concreted in the ground is recommended. The holes for footing to posts should be dug out using handheld tools. The sides of the holes should be lined with an impermeable membrane to prevent the caustic and toxic effects of wet cement in the concrete from damaging tree roots.

Services in Proximity to Existing Trees

- 3.38 The location and direction of new services should be designed to allow for services to be routed away from the RPAs of existing trees. Existing service runs should always be used wherever possible.
- 3.39 Where the proposed routing of services impinges upon the tree RPA of any existing tree to be retained; the routing should be undertaken as a minimum standard in accordance with *NJUG Volume 4, issue 2: 'Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees'*.
- 3.40 A 'Manual Excavation Method' is to be followed to carefully hand-dug and route the apparatus most directly to and from the exterior of the RPA radius.
- 3.41 Services are to be routed together wherever possible to create the minimum impact upon the roots of the existing trees to be retained. Trench excavation across the tree Root Protection Area radius beside an existing tree should be avoided, whereby tree roots would become severed. Where services are to cross the edge of an existing RPA, they should be routed via a hand-dug ducting sleeve, avoiding damage to roots.

Installation of Fencing

- 3.42 Proposed new fencing to residential gardens shall be installed following the removal of tree-protective fencing and ground protection measures. Post holes within the RPAs shall be manually dug and shall not sever any major roots. Roots over 25mm in diameter or those occurring in clumps must not be severed without Arboricultural

advice. Where absolutely necessary, tree roots below such size should be cut cleanly to the minimum extent to allow works to proceed.

Hard and Soft Landscaping

- 3.43 The Arboricultural Consultant should review any landscape operations that involve any work within the RPAs of retained trees and input additional site-specific methodology where necessary.
- 3.44 The existing ground levels within the RPA of the retained trees must be retained and incorporated into the finished landscaped development. Where changes in level occur, these are to be either graded into the finished levels starting outside the RPA or alternatively, retaining wall structures are to be used to differentiate between the different levels.
- 3.45 All soft and hard landscaping within the RPAs must be carried out manually and the soil levels must not be lowered or raised resulting in root damage to the trees. All finished surfaces are to be porous to allow the free movement of water and gaseous exchange to the roots.

Future Tree Surgery Works - Dead branches

- 3.46 All deadwood features should be managed in accordance with BS 3998-2010: Tree work Recommendations.
- Safety needs should be balanced against wildlife habitat protection.
 - Dead branches should be shortened or if necessary, removed if they pose an unacceptable risk to people or property and if other options (e.g. diverting a footpath) are not practicable.
- 3.47 When deciding whether dead branches or dead trees should be retained and, if so, to what extent they might need to be pruned, a balance should be made between the mitigation of risk and the maintenance of wildlife habitats. The unnecessary loss of deadwood habitats should be avoided when specifying pruning or other works, particularly if legally protected species are using the tree. The following risk factors should be taken into account:
- the location (e.g., whether the deadwood overhangs a target that cannot be readily moved, such as a highway);

- the wood properties and decay characteristics of the species concerned.
- the size of the deadwood.

Future Tree Surgery Works - Standing Dead Trees

- 3.48 Where standing dead trees are retained, their height should be reduced if this is required for mitigation of present or future risks. They should be inspected periodically, and further work should be undertaken (either felling or progressive reduction, depending on practicability) if necessary to keep risks within acceptable limits.

Further Ecological Enhancement Methods

- 3.49 Further enhancement can be/will be achieved with the utilisation of arisings resulting from vegetation removal or clearance works within the site.
- 3.50 Arisings will be retained for use as deadwood habitat log piles at the base of the existing trees and woodland foliage. Piles shall be made from arisings of native vegetation taken from the site or surrounding areas where possible. Piles should contain both larger logs (with gaps between), brash and branches and smaller leaf litter and cuttings/ grass clippings, to create varied conditions.
- 3.51 All branches and stems larger than 75mm in diameter, can/will be retained for use as deadwood habitat log piles at the base of the existing foliage. These are best left in lengths of a metre or more, but smaller sections will also be suitable. In suitable areas, these can also be pushed under the bottom of the hedgerows and areas of scrub where they will provide suitable habitat for a plethora of invertebrates and in turn suitable refuge and forage for small mammals, birds, reptiles, and amphibians.
- 3.52 Retaining arisings on or near the site can have conservation benefits and allows for the gradual recycling of the mineral nutrients and carbon that they contain which will further enrich the trees on site.

Ongoing Management of Tree, Hedges and Native shrubs

- 3.53 To ensure the trees and/ or hedges continue to be a useful ecological feature, they shall not be cut overly frequently and shall be allowed to become relatively dense and

tall. Any hedges on site shall be cut outside of the bird nesting season (which generally runs March-August inclusive) and not more than once every three years. Minor trimming of stray branches over paths etc. can be carried out more regularly if required.

- 3.54 Any sections of new planting or failed newly planted trees will need to be replaced and species and sizes will have to be matched with what has been lost.

4.0 SCHEDULE OF SUPERVISION

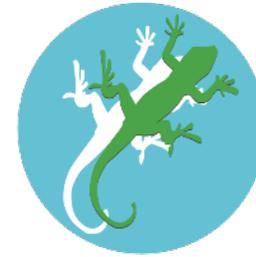
4.1 To ensure works accord with the recommendations and the British Standard, works shall proceed as per the below schedule of supervision. Photographic evidence shall be taken at each stage such that a final completion report can be provided.

Table No. 05 – Schedule of Supervision

Works	Responsibility	Notes	Sign off & Date
Pre-commencement Meeting	Construction Manager and Project Arboriculturist	To discuss the programme of works, the timing and implementation of the tree works and the tree protection measures.	
Tree removal works	Construction Manager and Project Arboriculturist	Project Arboriculturist to mark trees for removal and/or surgery works.	
Installation of tree protective fencing and ground protection	Construction Manager and Project Arboriculturist	Set out as per TRPP. Fencing and ground protection measures are to be inspected by the project arboriculturalist.	
Monthly inspection of protective fencing	Construction Manager	Construction manager to inspect fencing. Any issues are to be reported to the project arboriculturalist.	
Demolition within RPA's	Construction Manager	All works are conducted as per the method statement. Photographic record to be sent to project arboriculturalist to evidence works.	
Trial Pits	Construction Manager and Project Arboriculturist	Trail pits are to be dug at an agreed location under arboricultural supervision.	
Manual excavation within RPA's	Construction Manager	Works undertaken in accordance method statement. Project arboriculturalist to be contacted should roots larger than 25mm diameter be encountered.	

Installation of hard surfaces within RPA's.	Construction Manager, Engineer and Project Arboriculturist	All works are conducted as per the method statement. Specification of no-dig construction is to be agreed upon with the engineer and arboriculturalist. Photographic record to be sent to project arboriculturalist to evidence works.	
Building Construction within RPA's	Construction Manager, Engineer and Project Arboriculturist	All works are conducted as per the method statement. Specification of foundation design to be agreed with engineer and arboriculturalist. Photographic record to be sent to project arboriculturalist to evidence works.	
Removal of tree protective fencing	Construction Manager and Project Arboriculturist	Only to be removed at the end of the construction period and following authorisation from the project arboriculturalist.	

Appendix A – Tree Survey Schedule



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ECE PLANNING

LAND ADJACENT TO PUCKS CROFT COTTAGE, RUSPER, WEST SUSSEX

EXISTING TREE SCHEDULE

Project Reference:	LLD3245
Prepared By:	BW
Checked By:	GO
Position:	Assistant Arb Consultant
Date	17.06.25
Revision:	01

Tree No.	Species	Diameter @1.5m	Height (approx.)	Spread (approx.)	Age	Condition/Preliminary Recommendations	Category	Status
T 01	<i>Pinus sp.</i> (Pine); (6.0m Radius of nominal circle; RPA 113m²)	500 mm (Estimated)	21.0 m Clear Stem Height 8.0 m	N: 6.0 m E: 5.0 m S: 4.0 m W: 4.0 m	Mature Estimated Remaining Contribution 20 + Years	Growing in an adjacent driveway. The tree is tall and relatively sparse.	B 1	Retain
T 02	<i>Juglans regia</i> (English Walnut); (6.0m Radius of nominal circle; RPA 113m²)	500 mm CSD	10.0 m Clear Stem Height	N: 5.0 m E: 5.0 m S: 6.0 m	Early Mature Estimated Remaining Contribution	Growing in an adjacent driveway and hanging over the site. The tree divides to codominant leaders at 1.0 m height. The tree displays an uneven canopy with several cavities to the main stem.	C 1	Retain
SH 03	Mixed Species Ornamental Hedgerow; (1.2m Radius of nominal circle; RPA 5m²)	100 mm Average	7.0 m Clear Stem Height 2.0 m	N: \s Show E: 0.0 m S: 0.0 m W: 0.0 m	Semi-Mature Estimated Remaining Contribution 10 + Years	Ornamental shrubs growing in the adjacent property. The vegetation forms a dense hedge growing above the boundary fence, providing screening. Normal vitality.	C 2	Retain
H 04	Mixed Species Native Hedgerow; (2.4m Radius of nominal circle; RPA 18m²)	200 mm Average	9.0 m Clear Stem Height 2.0 m	N: \s Show E: 0.0 m S: 0.0 m W: 0.0 m	Semi-Mature Estimated Remaining Contribution 10 + Years	A dense hedge or treeline growing partly in the site and partly on the adjacent property. Inspection was limited by the fence and surrounding scrub, but the trees form a prominent feature, providing screening and habitat. Normal vitality.	C 2	Retain

Tree No.	Species	Diameter @1.5m	Height (approx.)	Spread (approx.)	Age	Condition/Preliminary Recommendations	Category	Status
T 05	<i>Malus sp.</i> (Apple sp.) (3.6m Radius of nominal circle; RPA 41m²)	293 mm	8.0 m Clear Stem Height 2.5 m	N: 4.0 m E: 4.0 m S: 4.0 m W: 3.0 m	Early Mature Estimated Remaining Contribution 10 + Years	A garden tree of fair form and vigour but still relatively insignificant. The top growth is strongest to the south. Normal vitality.	C 1	Remove
T 06	<i>Laurus nobilis</i> (Bay Laurel); (4.5m Radius of nominal circle; RPA 64m²)	375 mm CSD	8.0 m Clear Stem Height 0.0 m	N: 3.0 m E: 3.0 m S: 2.5 m W: 4.0 m	Mature Estimated Remaining Contribution 10 + Years	A garden tree formed of a clump of stems from the base. The stems ascend to form a dense, rounded crown at the apex. Minor internal deadwood is noted. The tree offers ornamental value only. Normal vitality.	C 1	Remove
TG 07	<i>Quercus robur</i> (Pedunculate Oak); (7.2m Radius of nominal circle; RPA 163m²)	600 mm (Estimated)	21.0 m Clear Stem Height 4.0 m	N: 6.0 m E: 6.0 m S: 7.0 m W: 7.0 m	Early Mature Estimated Remaining Contribution 40 + Years	Off site trees. A mature Oaktree line growing off-site - no access was available. The trees appear in good condition. Normal vitality.	A 2	Retain
H08	Mixed Species Native Hedgerow; (0.9m Radius of nominal circle; RPA 3m²)	50 mm Average	3.0 m Clear Stem Height 0.5 m	N: 0.5 m E: 0.5 m S: 0.5 m W: 0.5 m	Young Estimated Remaining Contribution 10 + Years	A cypress hedge just over the adjacent boundary. The trees are at approximately 1.0 m spacings. Also within the hedgerow are self seeded Oaks, Ash, Hawthorn, privet and bramble. Normal vitality.	C 1	Retain

Tree No.	Species	Diameter @1.5m	Height (approx.)	Spread (approx.)	Age	Condition/Preliminary Recommendations	Category	Status
T 09	<i>Eucalyptus sp.</i> (Eucalyptus Gum Tree) (2.4m Radius of nominal circle; RPA 18m²)	188 mm	15.0 m Clear Stem Height 8.0 m	N: 3.0 m E: 1.0 m S: 2.0 m W: 2.0 m	Semi-Mature Estimated Remaining Contribution 10 + Years	A garden tree growing just inside the adjacent site. The tree displays a very high crown and divides to codominant leaders at 7.0 m height. The tree leans over the boundary into the site. Normal vitality.	C 1	Retain
T 10	<i>Eucalyptus sp.</i> (Eucalyptus Gum Tree); (2.7m Radius of nominal circle; RPA 23m²)	210 mm	16.0 m Clear Stem Height 2.0 m	N: 2.0 m E: 2.0 m S: 2.0 m W: 2.0 m	Semi-Mature Estimated Remaining Contribution 10 + Years	Growing just inside the adjacent garden. The tree is of good, even form with a feathered crown. Normal vitality.	C 1	Retain
T 11	<i>Quercus robur</i> (Pedunculate Oak); (5.4m Radius of nominal circle; RPA 92m²)	450 mm (Estimated)	17.0 m Clear Stem Height 3.0 m	N: 6.0 m E: 6.0 m S: 5.0 m W: 4.0 m	Early Mature Estimated Remaining Contribution 20 + Years	The northern end of a treeline growing just outside of the site. The tree is of fair form, displaying heavy ivy cover and minor deadwood. The tree is slightly sparser than adjacent trees. Normal vitality.	B 1	Retain
TG 12	Mixed Species Native Tree Group; (7.8m Radius of nominal circle; RPA 191m²)	650 mm Average	21.0 m Clear Stem Height 4.0 m	N: 8.0 m E: 8.0 m S: 8.0 m W: 8.0 m	Mature Estimated Remaining Contribution 40 + Years	A mature treeline of oaks interspersed with several ash trees, and a Lime tree. The trees appear of good general form, with several displaying typical ivy and deadwood. The trees are just outside of the site. Potential roosting features throughout the crowns. Normal vitality.	A 2	Retain

Tree No.	Species	Diameter @1.5m	Height (approx.)	Spread (approx.)	Age	Condition/Preliminary Recommendations	Category	Status
TG 13	<i>Pinus sylvestris</i> (Scot's Pine) (4.5m Radius of nominal circle; RPA 64m²)	376 mm Average	23.0 m Clear Stem Height 12.0 m	N: 3.0 m E: 3.0 m S: 3.0 m W: 3.0 m	Early Mature Estimated Remaining Contribution 20 + Years	A group of narrow, upright trees growing on the edge of woodland, separated from the woodland proper by a footpath. The trees display fair form, with lower deadwood noted. Normal vitality.	B 2	Retain
TG 14	<i>Prunus sp.</i> (Cherry sp.); (3.0m Radius of nominal circle; RPA 28m²)	248 mm Average	20.0 m Clear Stem Height 6.0 m	N: 3.0 m E: 4.0 m S: 4.0 m W: 3.0 m	Semi-Mature Estimated Remaining Contribution 10 + Years	A clump of woodland edge trees, separated from the woodland proper by a footpath, with several failed trees noted. One of which has a fungal bracket on standing deadwood - Chicken of the woods. Potential roosting features throughout. The trees display narrow forms with small high crowns, typical of suppressed woodland trees. Reduced vitality.	C 2/3	Retain
TG 15	<i>Aesculus hippocastanum</i> (Horse Chestnut); (7.5m Radius of nominal circle; RPA 177m²)	618 mm Average	19.0 m Clear Stem Height 2.0 m	N: 6.0 m E: 7.0 m S: 7.0 m W: 6.0 m	Early Mature Estimated Remaining Contribution 20 + Years	Growing on the footpath to the edge of the woodland. The trees are generally of good form; the western tree displays a slight stem-twist (as typical for the species) and divides to multiple leaders at 4.0 m height, holding minor deadwood in the crown. The eastern tree displays a slight bleed from the stem at 1.8 m height. Normal vitality.	B 1	Retain

Tree No.	Species	Diameter @1.5m	Height (approx.)	Spread (approx.)	Age	Condition/Preliminary Recommendations	Category	Status
T 16	<i>Aesculus hippocastanum</i> (Horse Chestnut); (8.4m Radius of nominal circle; RPA 222m²)	691 mm	18.0 m Clear Stem Height 3.0 m	N: 7.0 m E: 6.0 m S: 6.0 m W: 7.0 m	Early Mature Estimated Remaining Contribution 10 + Years	Growing on the footpath to the edge of the woodland. Major damage is noted to the stem resulting in a wound of 30cm(w) by 90cm (h) at the base. The wound is decayed and the stem sounds hollow from the base to 1.5 m height. The main trunk divides to multiple stems at 4.0. m height and the crown holds moderate deadwood. Reduced vitality. Recommendation: If the tree is within ownership, undertake more detailed analysis of the internal decay of the stem, and consult a tree surgeon to discuss potential reduction or removal. If outside of ownership inform owners.	C 1	Retain
T 17	<i>Quercus robur</i> (Pedunculate Oak) (15m Radius of nominal circle; RPA 707m²)	1346 mm	20.0 m Clear Stem Height 3.0 m	N: 8.0 m E: 9.0 m S: 9.0 m W: 9.0 m	Mature Estimated Remaining Contribution 40 + Years	Growing on the edge of the footbridge. A mature tree, displaying ivy growth and typical moderate deadwood. The crown is broad, even and vigorous. The tree is an old feature of the site area. A birds nest at 6m in the centre of the crown. Normal vitality.	A 1/2/3	Retain

Tree No.	Species	Diameter @1.5m	Height (approx.)	Spread (approx.)	Age	Condition/Preliminary Recommendations	Category	Status
SH 18	Native Shrubs and Scrub; (2.7m Radius of nominal circle; RPA 23m ²)	212 mm Average	6.0 m Clear Stem Height 0.0 m	N: 3.0 m E: 3.0 m S: 3.0 m W: 3.0 m	Semi-Mature Estimated Remaining Contribution 10 + Years	Old hedge remanent shrubs, now small trees of poor form and covered in heavy ivy. The vegetation currently offers little value, but could be improved and a hedge re-established here. Normal vitality.	C 2/3	Retain
T 19	<i>Fraxinus excelsior</i> (Ash); (7.8m Radius of nominal circle; RPA 191m ²)	650 mm	20.0 m Clear Stem Height 2.0 m	N: 6.0 m E: 8.0 m S: 7.0 m W: 9.0 m	Mature Estimated Remaining Contribution 20 + Years	The tree displays a broad crown, with 3no. Primary scaffolds dividing at 7.0 m height. Major deadwood and ivy growth are present, however the tree still displays fair vigour. Normal vitality.	B 1	Retain
H 20	Hedgerows and Shrubs; (1.2m Radius of nominal circle; RPA 5m ²)	100 mm Average	3.0 m Clear Stem Height 0.0 m	N: 0.0 m E: 0.0 m S: 0.0 m W: 0.0 m	Semi-Mature Estimated Remaining Contribution 10 + Years	A remnant of an ornamental hedgerow, now overgrown with low scrub and small self-seeded trees. The vegetation provides some limited screening.	C 2	Remove
H 21	Mixed Species Native Hedgerow (1.2m Radius of nominal circle; RPA 5m ²)	80 mm	1.5 m Clear Stem Height 0.0 m	N: 0.5 m E: 0.5 m S: 0.5 m W: 0.5 m	Semi-Mature Estimated Remaining Contribution 10 + Years	A sparse row of mixed shrubs of different heights. Normal vitality. Remove approximately 48m of hedgerow from the the southern section, and remove 12m from the northern end.	C 2	Partial Retain / Partial Remove

CATEGORY DIVISION - BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'

Trees to be considered for retention

Category A

- Trees whose retention is most desirable to include; trees of high quality having an estimated longevity of over 40 years;

Category B

- Trees where retention is desirable to include; trees of moderate quality having an estimated longevity of over 20 years;

Category C

- Trees of low quality having an estimated longevity of over 10 year, or young trees with a stem diameter below 150mm;

1. Mainly Arboricultural Qualities

- Trees that are particularly good examples of their species, especially if rare or unusual

- Trees that might be included in the higher category, but because of significant impaired but remediable condition are downgraded

- Trees in adequate or impaired condition, or those which can be retained with minimal tree surgery, but not worthy for inclusion in the high or moderate category

2. Mainly Landscape Qualities

- Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features

- Trees present in numbers offering a higher collective categorisation than as individually rated; trees occurring in groups but due to situation, offering little contribution in the context of the wider locality

- Trees present in numbers without having significant landscape value

3. Mainly cultural values, including conservation

- Trees of significant historical, commemorative or other value, or good specimens of rare or unusual species

- Trees having some material conservation or cultural value

- Trees having no material conservation or other cultural value

Trees unsuitable for retention

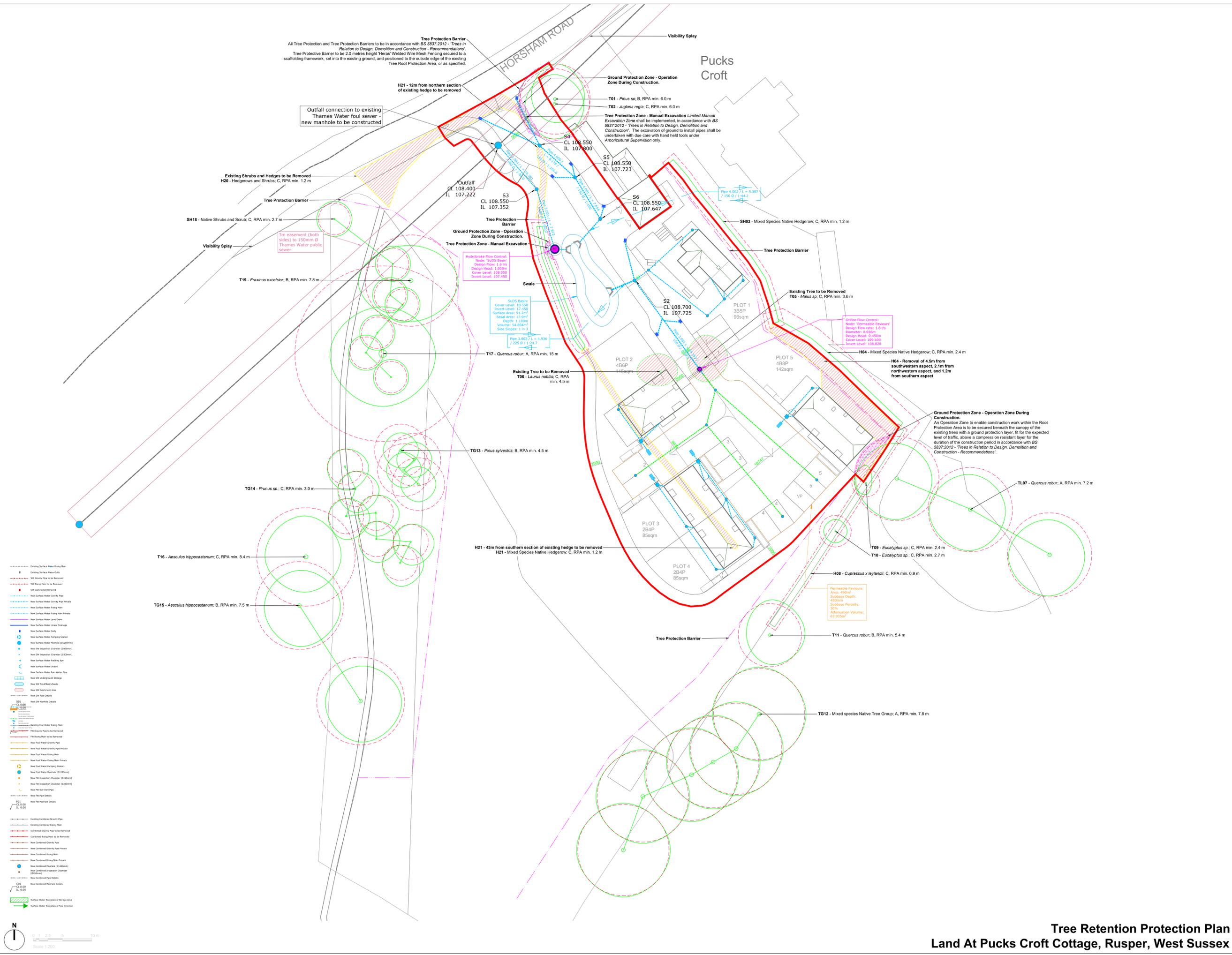
Category U - Trees not for retention within the context of existing land use;

- Trees that are unviable due to serious, irremediable structural defect; early loss is expected due to collapse;
- Trees that are dead or showing signs of significant, immediate, irreversible decline;
- Trees infected with pathogens of significance to health and subsequent safety, and threat thereof to trees nearby;
- Trees of very low quality suppressing the development of those of greater quality;
- Trees that will become unviable after the removal of other trees for reasons above.

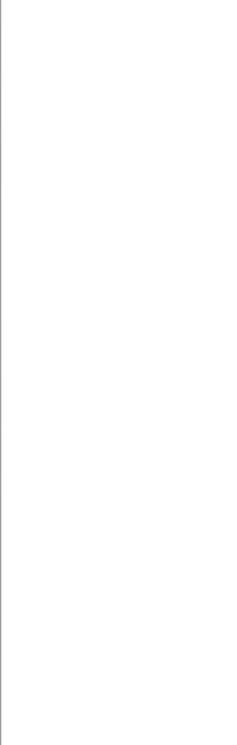
CSD – Combined Stem Diameter;

- Root Protection Areas calculated for multiple stemmed trees based upon a combined stem diameter in accordance with BS 5837:2012.

Appendix B – Tree Retention and Protection Plan



- Legend**
- Tree and Shrub Numbers.**
 - T02
 - 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 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.
 - Category U Trees**
Trees unsuitable for retention.
 - Tree Protection Barrier**
All Tree Protection and Tree Protection Barriers to be in accordance with BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'.
Tree Protective Barrier 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.
 - Ground Protection Zone - Operation Zone During Construction.**
An Operation Zone to enable construction work within the Root Protection Area is to be secured beneath the canopy of the existing trees with a ground protection layer, fit for the expected level of traffic, 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 - Recommendations'.
 - Existing Trees to be Removed**
Tree Surgery operations to be in accordance with BS3998:2010 - 'Tree Works - Recommendations'.
 - Existing Shrubs and Hedges to be Removed**
 - Tree Protection Zone - Manual Excavation Limited Manual Excavation Zone** shall be implemented, in accordance with BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction'. The excavation of ground to install pipes shall be undertaken with due care with hand held tools under Arboricultural Supervision only.



Notes:
 1. Drawing to be read in colour.
 2. For details of existing trees and vegetation refer to: LD3245-ARB-SCI-001 - Existing Tree Schedule.
 3. For assessment of effects of the proposed development on existing trees refer to: LD3245-ARB-REP-001-01 Arboricultural Impact Assessment and Method Statement.

Planning Issue

Rev	Description	Date	Initials
02	Planning Issue	16/08/25	BW
01	Planning Issue	17/12/24	BW
00	Planning Issue	21/06/24	BW

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Client: ECE Planning
 Project Title and Location: Land At Pucks Croft Cottage, Rusper, West Sussex
 Drawing Title: Tree Retention Protection Plan

Scale	Drawn	Approved	Date
1:200@A0	BW	GO	16/06/2025

Drawing No: LD3245-ARB-DWG-020



Tree Retention Protection Plan
Land At Pucks Croft Cottage, Rusper, West Sussex



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