



DUCKWORTHS
ARBORICULTURE

BS:5837 ARBORICULTURAL REPORT

ARBORICULTURAL SURVEY, IMPACT ASSESSMENT &
METHOD STATEMENT

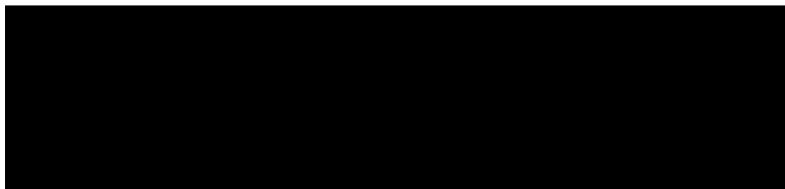
1 GREENWAYS CRESCENT
FERRING
WORTHING
WEST SUSSEX
BN12 5EF

MAY 2021

Ref: SCD 05585 / 2021 (Revision 1)

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1. EXECUTIVE SUMMARY

This report provides detailed and site specific information on the steps which will be undertaken to ensure trees at 1 Greenways Crescent are not harmed during the proposed building works to construct a new detached dwelling on site following the demolition of the existing detached property.

Trees on site have been surveyed in accordance with the guidelines and recommendations in the British Standard 5837 (2012) Trees in Relation to Design Demolition and Construction. The survey has identified that the better specimen trees are within the garden area to the side of the property and well away from the build footprint. Trees in the area immediately adjacent to the dwelling have been identified as poor quality small trees and of very low amenity value and arboricultural quality due to suppression by adjacent trees, climbing plants or laurel shrubs.

The property owner, Mr. Nevell, loves the garden and the character the trees provide to the setting of 1 Greenways Crescent. Mr. Nevell is committed to protecting and retaining the trees within the garden area in order to preserve the property's verdant setting and the ecology provided by trees in the garden.

The replacement dwelling has therefore been designed within the footprint of the existing property to ensure key trees can be protected and retained. Areas of block paving, lightweight structures such as garden walls and areas of hard standing will be removed from within the rooting area in order to benefit T30, a large Pine which dominates the residential garden.

A robust scheme of new planting will complement and enhance the existing tree cover with a net increase of native and non-native specimen trees on completion of the landscaping works.

This application is therefore respectful to the preservation of trees on site. Provided the methodology specified within the Arboricultural Method Statement is followed during these landscaping works I am satisfied that this application can be undertaken in accordance with the guidelines and recommendations in BS:5837 2012 – Trees In Relation to Design, Demolition and Construction and without harm to the retained trees on site.

2. CONTENTS

1.	EXECUTIVE SUMMARY.....	2
3.	INTRODUCTION.....	4
3.1.	INSTRUCTION.....	4
3.2.	SCOPE.....	4
3.3.	DOCUMENTS.....	4
3.4.	CAVEATS.....	5
4.	ARBORICULTURAL IMPACT ASSESSMENT.....	6
4.1.	INTRODUCTION.....	6
4.2.	SETTING.....	6
4.3.	SOIL.....	6
4.4.	TREES APPRAISAL.....	6
4.5.	PLANNING CONSTRAINTS.....	10
4.6.	TREE WORKS AND REMOVAL.....	11
4.7.	TREE PROTECTION DURING BUILDING WORKS.....	12
4.8.	SERVICES.....	12
4.9.	CONCLUSIONS.....	13
5.	ARBORICULTURAL METHOD STATEMENT (AMS).....	14
5.1.	INTRODUCTION.....	14
5.2.	PHASING OF WORKS.....	14
5.3.	SITE SUPERVISION AND MONITORING.....	15
5.4.	PROTECTED SPECIES.....	15
5.5.	TREE WORKS.....	16
5.6.	TREE WORKS BEST PRACTICE.....	16
5.7.	TREE PROTECTION FENCING.....	17
5.8.	GROUND PROTECTION.....	17
5.9.	CONSTRUCTION EXCLUSION ZONE.....	18
5.10.	SERVICES.....	18
5.11.	REMOVING STRUCTURES WITHIN THE TREES' ROOTING AREAS.....	18
5.12.	GENERAL CONSIDERATIONS.....	19
5.13.	LANDSCAPING.....	19
5.14.	NEW TREE PLANTING.....	20
5.15.	UNFORESEEN CIRCUMSTANCES.....	20
4	APPENDICES.....	21
A)	PLANS.....	22
B)	CONTACTS.....	23
C)	SURVEY APPRAISAL.....	24
D)	SURVEY KEY.....	25
E)	BS:5837 (2012) TABLE 1: CASCADE CHART FOR TREE QUALITY ASSESSMENT.....	26
F)	SURVEY DATA.....	27
G)	TREE PROTECTION FENCING SPECIFICATION.....	30
H)	TREE PROTECTION SIGNAGE.....	31
I)	QUALIFICATIONS.....	32

3. INTRODUCTION

3.1. INSTRUCTION

- 3.1.1. This Report which considers Arboricultural Impact of the redevelopment of 1 Greenways Crescent, has been prepared by Sarah Duckworth, Arboricultural Consultant.
- 3.1.2. I have been instructed by Chris Nevell, owner and future resident of 1 Greenways Crescent, to survey the trees and write an Arboricultural Impact Assessment which looks at any short or longer-term impact the proposed demolition and replacement of the existing dwelling might have on the surrounding trees and to make recommendations for amendments or mitigation where appropriate.
- 3.1.3. This report includes a site-specific Arboricultural Method Statement and Tree Protection Plan which details the steps which will be taken in order to ensure significant trees can be successfully protected and retained during and on completion of the proposed building works.

3.2. SCOPE

- 3.2.1. The British Standard 5837:2012 'Trees in Relation to Design, Demolition and Construction' is designed to assist those concerned with trees in relation to construction to form balanced judgments. This report does not therefore seek to put arguments for or against development but provides a means of protecting the trees which will may be affected during development.
- 3.2.2. The tree protection plan which accompanies this report is illustrative and should only be used for dealing with tree issues only. The precise location of all tree protective measurements should be confirmed with a pre-commencement site meeting before any demolition or construction activity takes place.
- 3.2.3. The report is for the sole use of the client and its reproduction or use by anyone else is forbidden unless written consent is given by the author.

3.3. DOCUMENTS

- 3.3.1. I have had been provided with a topographical survey and CAD drawing of the build proposals by the client from which the findings of this report have been based.

DISCLAIMER: This is an independently produced Arboricultural Report. I have no connection with any of the parties involved in this site or application that could influence or bias the opinions expressed in this report.

3.4. CAVEATS

- 3.4.1. The Tree Protection Plan which accompanies this report is illustrative and should only be used for dealing with tree issues only. The precise location of all tree protective measurements should be confirmed with a pre-commencement site meeting before any demolition or construction activity takes place.
- 3.4.2. The report is not a Tree Risk Management Report or a Hazard Analysis Report and its use as such is invalid.
- 3.4.3. The report refers to the condition of tree(s) and an assessment of the site on the day the evaluation was undertaken. The trees were assessed from ground level only and not climbed. My assessment of third party trees was limited where direct access was not available to the adjoining properties.

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4. ARBORICULTURAL IMPACT ASSESSMENT

4.1. INTRODUCTION

- 4.1.1. The purpose of the Arboricultural Impact Assessment (AIA) is to evaluate the direct and indirect effects of the proposed build design on the trees and where necessary recommend solutions or mitigation as appropriate. The assessment will take account of the effects of any tree loss required to implement the design and any potentially damaging activities proposed in the vicinity of the retained trees.

4.2. SETTING

- 4.2.1. 1 Greenways Crescent is a detached property located at midway along a short residential cul-de-sac. The curtilage of the property is broadly triangular in shape with the dwelling located at the wider end. The setting of the property and the cul-de-sac is greatly enhanced by the mature forest-type trees growing within the garden of the property. The garden is located to the side (east) of the dwelling with a long boundary fronting directly onto Greenways Crescent.
- 4.2.2. As a short residential cul-de-sac, there is no through vehicular traffic and the amenity provided by the trees on site is limited to occupants and visitors to residential dwellings in the immediate locality.

4.3. SOIL

- 4.3.1. The soil on site was assessed by an appraisal on the British Geological Drift Survey Map only. According to the 1:50 000 scale map records, the bedrock geology for 1 Greenways Crescent is: New Pit Chalk Formation - Chalk. This is a sedimentary bedrock formed in a local environment previously dominated by warm chalk seas.
- 4.3.2. Superficial deposits of River Terrace Deposits (undifferentiated) – of sand, silt and clay are also expected in this area. Borehole records close to the property confirm the presence of Clay. The soil in this area may therefore be vulnerable to compaction and may have some capacity to shrink and swell with changing moisture levels.
- 4.3.3. Foundation depths should be calculated in accordance with NHBC Chapter 4.2, taking into account the presence and future growth of the adjacent trees, to ensure foundations can resist damage as a result of soil desiccation and shrinkage.

4.4. TREES APPRAISAL

Number of individual trees surveyed:	28
Number of tree groups surveyed:	2
Number of category 'A' trees / groups:	1
Number of category 'B' trees / groups:	2
Number of category 'C' trees / groups:	25
Number of category 'U' trees / groups:	3

TREES APPRAISAL (continued)

- 4.4.1. The most significant tree in relation to this build is the large Monterey Pine (T30) growing roughly centrally within the garden of 1 Greenways Crescent. The tree has a swept stem and broad canopy. The tree has been given a category 'B' designation due to the leaning form and extensive deadwood in the tree's canopy, but otherwise it appears to be in good physiological health.
- 4.4.2. The Pine tree is a significant mature specimen which predates the development of Greenways Crescent which (in style) dates back to the 1950's / 60's.



Image 1 - Monterey Pine (T30)

TREES APPRAISAL (continued)

- 4.4.3. The footprint of the new dwelling has been pulled back away from the tree in order to allow a greater distance between the tree and the new residential property. Excessive areas of hard landscaping, garden walls and brick features currently within the garden are to be removed and the exposed ground restored with soft landscaping on completion of the build.



Image 2 – Areas of hard standing to be reduced

- 4.4.4. The development is therefore expected to improve the long-term relationship between T30 (Pine) and the new residential property and benefit the tree's rooting area by reducing the areas of hard standing within the rooting area of the tree.
- 4.4.5. There are a number of trees and small shrubs growing close to the property which are to be removed in order to facilitate the build. These are all small category C trees and shrubs, the loss of which can be easily mitigated with additional tree planting on site
- 4.4.6. All other trees are located within the garden area and can be adequately protected with Tree Protection Fencing during the course of the proposed building works.

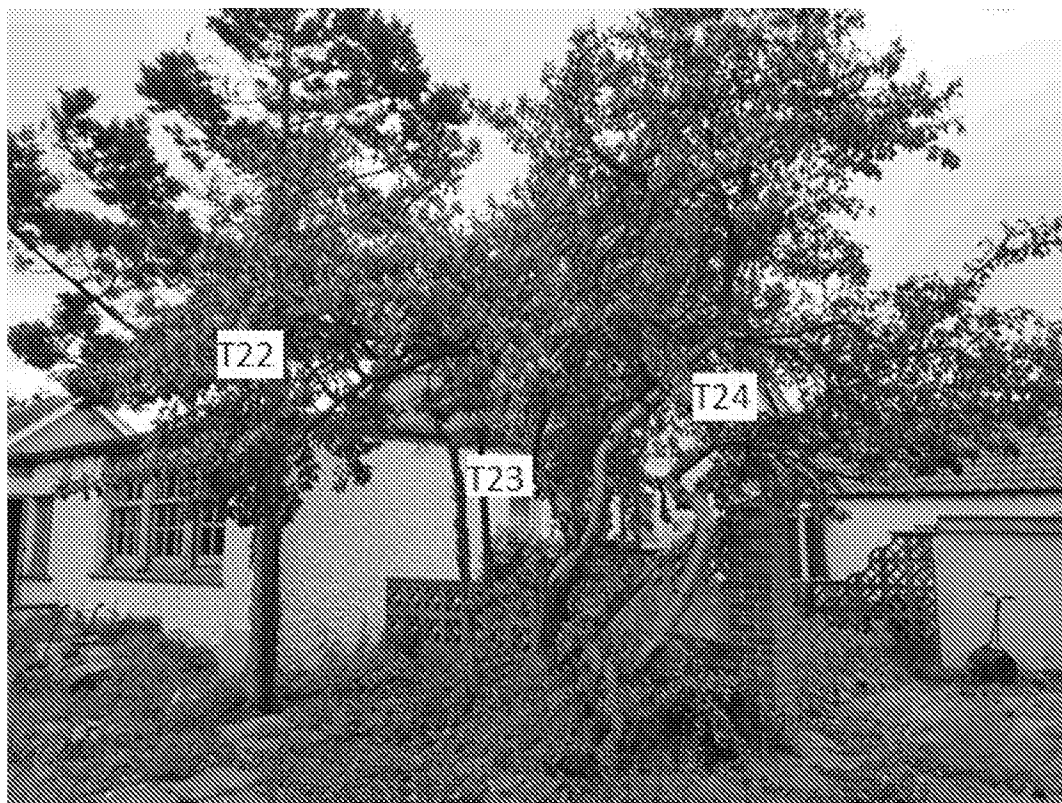


Image 3 – Large shrubs / small trees (identified for removal)

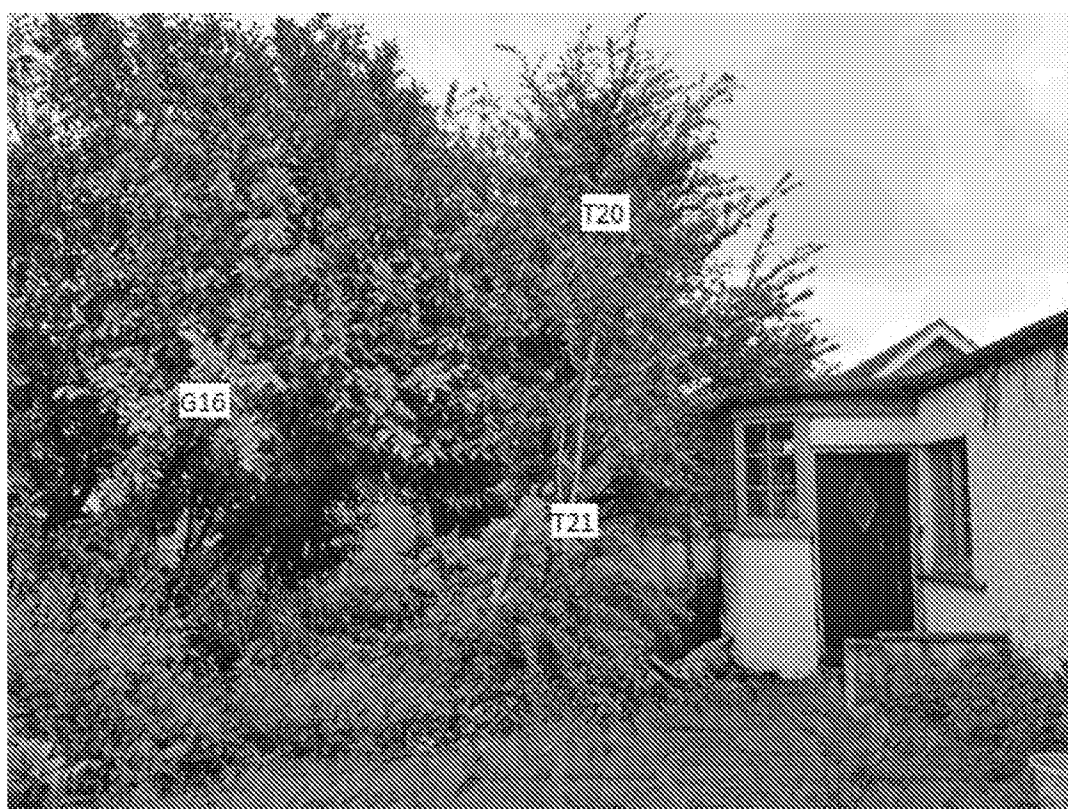


Image 4 – Shrub / tree group to rear of property (identified for removal).

4.5. PLANNING CONSTRAINTS

- 4.5.1. I have confirmed on Arun District Council website that trees on site are protected under Area TPO/FG/1/15. No works should be undertaken to the trees on site without the prior written consent of the Local Authority.
- 4.5.2. 1 Greenways is not within a Conservation Area.



Figure 1 - Extract from the Arun District Council Local Knowledge Maps

4.6. TREE WORKS AND REMOVAL

4.6.1. The following tree works are proposed as part of the redevelopment of the property

Ref.	Species	Comments	Works	Cat.
T1	Western Red Cedar (<i>Thuja plicata</i>)	Dense bramble throughout foliage. No visual inspection of trunk due to dense foliage	Fell and replace	C1
T8	Willow (<i>Salix fragilis</i>)	Major deadwood over highway. Partially collapsed stem, possible root plate movement. Recommended works: pollard, removing all stems back to bole at 1m.	Coppice to 1m stool	U
G16	Cherry and Portuguese Laurel	Mature shrubs with limited wider amenity value.	Fell to ground level	C2
T17	Holly (<i>Ilex aquifolium</i>)	Mature stems and some younger sucker growth.	Fell and replace	C1
T18	Elder (<i>Sambucus nigra</i>)	Suppressed shrub.	Fell and replace	C1
T19	Holly (<i>Ilex altacorensis</i>)	Twin stem with tight fork and bark inclusion. Nesting birds in canopy.	Fell and replace	C2
T20	Hawthorn (<i>Crataegus laevigata</i>)	Light ivy coverage, suppressed tree, poor form.	Fell and replace	C2
T21	<i>Weigela spp</i>	Large ornamental shrub.	Fell and replace	C1
T22	Juniper (<i>Juniperus squamata</i>)	Foliage sparse, low vitality.	Fell and replace	C1
T23	Cypress (<i>Cupressus spp.</i>)	Overly slender and weak specimen.	Fell and replace	C1
T24	Cotoneaster (<i>Cotoneaster cornubia</i>)	Multi-stem tree, roots lifting slabs. Dead stems cut to stumps.	Fell and replace	C1

Figure 2 - Tree Works Recommendation

- 4.6.2. None of the trees to be removed have any notable Arboricultural quality or amenity value, now or in the near future such that they would pose a reasonable constraint to the planning proposals.
- 4.6.3. On completion of the build, a robust scheme of landscape planting is proposed with a minimum 1:1 replacement new specimen trees comprised of a mixture of native and non native trees to improve the diversity and sustainability of the tree cover on site.
- 4.6.4. Additional native hedgerow boundary planting adjacent to Greenways Crescent will enhance the setting of the new dwelling and soften wider views of the property in views from the public highway.

4.7. TREE PROTECTION DURING BUILDING WORKS

- 4.7.1. Temporary trackway such as 'Euroboards' or similar will be used for temporary ground protection in order to provide adequate working /storage space when working within the rooting area of T30 (Monterey Pine).
- 4.7.2. All retained trees will be protected with fit for purpose Tree Protection Barriers in accordance with BS:5837 (2012). The Tree Protection Fencing will consist of a vertical and horizontal scaffold framework braced well to resist impact.
- 4.7.3. The vertical tubes will be spaced at a maximum distance of 3m and driven securely into the ground. Onto this framework panels will be securely fixed. The British Standard 5837:2012 advises the panels should be welded mesh – 'Heras' style fencing which can resist reasonable vehicle impact.
- 4.7.4. The fencing must remain rigid and complete during development. The area behind the tree protection fencing is designated the Construction Exclusion Zone and should be isolated from all activity during work on the site.

4.8. SERVICES

- 4.8.1. I have not received any drainage or service plans for the site. However, following discussions with the client, I am advised that waste water will drain via the same routes as that of the original property. A soakaway where required can be constructed to the south of the property within the garden and outside of the rooting area of all trees.
- 4.8.2. New trenching for gas and electric services may also be connected up to those of the existing property. Where services require upgrading then trenches can be directed north, directly to centre of the road, avoiding the rooting areas of all retained trees.
- 4.8.3. As a matter of course, the Local Authority may request confirmation on services and routes, including the locations of any new soakaways to be submitted for approval in support of any future application to ensure it does not conflict with the retained trees on site.

4.9. CONCLUSIONS

- 4.9.1. This report demonstrates that the trees growing on and adjacent to 1 Greenways Crescent have been properly considered in accordance with Arboricultural and Planning best practice (BS:5837 2012 Trees in Relation to Design, Demolition and Construction').
- 4.9.2. The replacement dwelling is set on a smaller footprint than that of the existing property. A number of low grade trees and shrubs are identified for removal in order to facilitate the construction of the new dwelling and associated landscape improvement works. A robust scheme of new tree and shrub planting will complement and enhance the tree cover at 1 Greenways Crescent, maintaining the net tree canopy cover within the site following the build.
- 4.9.3. Existing areas of hard landscaping are to be reduced and the ground reinstated as soft landscaping. The garden boundary where it runs adjacent to Greenways Crescent are to be thickened and enhanced with additional new planting in order to retain a 'soft edge' in the form of landscaping.
- 4.9.4. All retained trees within the garden area can be fully protected and retained in accordance with the guidelines and recommendations in BS:5837 2012 - Trees in Relation to Design, Demolition and Construction.
- 4.9.5. The proposal therefore complies with BS:5837 2012 - Trees in Relation to Design, Demolition and Construction as it related to trees and development and the application is considered to be acceptable with regards to trees.

5. ARBORICULTURAL METHOD STATEMENT (AMS)

5.1. INTRODUCTION

- 5.1.1. This Arboricultural Method Statement specifies the detailed methodology that will be employed to protect trees during the course of building works construct a new detached dwelling at 1 Greenways Crescent, following the demolition of the existing property.
- 5.1.2. The correct and timely installation of tree protection measures such as tree protection barriers and ground protection surfaces are critical to ensure the long-term retention of a healthy tree stock on or adjacent to the development.
- 5.1.3. This method statement will be read, approved and agreed to by all key personnel prior to the commencement of works within the site.

WARNING: FAILURE TO FOLLOW THE ARBORICULTURAL METHOD STATEMENT ONCE APPROVED CAN CAUSE IRREPARABLE HARM TO PROTECTED TREES AND MAY INVALIDATE YOUR PLANNING CONSENT.

5.2. PHASING OF WORKS

STAGE 1 (PRE-COMMENCEMENT)

TREE WORKS



REMOVAL OF EXISTING AREAS OF HARD STANDING



ERECTION OF TREE PROTECTION FENCING & TEMPORARY GROUND PROTECTION



PRE-COMMENCEMENT SITE MEETING
(NOTIFY LOCAL AUTHORITY -MIN 5 DAYS)



STAGE 2 (CONSTRUCTION)

TREE PROTECTION MEASURES TO REMAIN RIGID &
INTACT THROUGHOUT ALL BUILDING WORKS



STAGE 3 (POST DEVELOPMENT)

REMOVE TREE PROTECTION FENCING / GROUND PROTECTION
NOTIFY LOCAL AUTHORITY -MIN 5 DAYS



LANDSCAPING AND TREE PLANTING OPERATIONS

5.3. SITE SUPERVISION AND MONITORING.

- 5.3.1. The schedule proposed here for site supervision and monitoring is considered reasonable and proportionate to the arboricultural issues and intensity of development within the site.
- 5.3.2. The appointed Site Manager who will be present on site during the build, will be designated with the responsibility of ensuring no works are undertaken on site except in complete accordance with the approved Arboricultural Method Statement.
- 5.3.3. A pre-commencement site visit will be held once the Tree Protection Fencing is installed as shown on the Tree Protection Plan and prior to the commencement of building works on site. The Local Authority Tree Officer will be given a minimum of five days' notice of the time and date of the meeting so that they may attend should they wish to do so.
- 5.3.4. The purpose of the pre-commencement meeting will be to confirm the location and construction of the Tree Protection Measures and ensure a common understanding of the requirements for Tree Protection within the site. If the Local Planning Authority is unable to attend, photographic evidence of the tree protection fencing will be emailed to the appointed planning officer once it has been erected.
- 5.3.5. The appointed Site Manager will notify the Local Authority Tree Officer 5 days' prior to the tree protection measures being removed on completion of development.
- 5.3.6. A copy of the Arboricultural Method Statement and Tree Protection Plan will be available on site for reference.

5.4. PROTECTED SPECIES

- 5.4.1. In accordance with the Wildlife and Countryside Act - 1981, Conservation - Natural Habitats - Regulations 1994 and Countryside Rights of Way Act - 2000, the property owner will consider the timing and type of tree work operations to avoid causing disturbance to any nesting or breeding birds or bat roosts that may be present within trees.
- 5.4.2. It is an offence (subject to exceptions) to intentionally kill, injure, or take, possess, or trade in any wild animal listed, and prohibits interference with places used for shelter or protection, or intentionally disturbing animals occupying such places.
- 5.4.3. Non-urgent major tree work involving tree removal or reduction and hedge cutting operations should not be undertaken during the bird nesting or breeding season, which is considered to be from 1 March to 31 July. However, depending on seasonal temperatures, some birds continue breeding into August and September.
- 5.4.4. All wild birds, their young, their eggs and active nests are protected under law. It is an offence to damage a nest intentionally while it is in use or being built and hedge cutting is highly likely to damage nests or cause them to be deserted.

5.5. TREE WORKS

- 5.5.1. The following trees will be removed prior to the commencement of any building works on site:

Ref.	Species	Comments	Works	Cat.
T1	Western Red Cedar (<i>Thuja plicata</i>)	Dense bramble throughout foliage. No visual inspection of trunk due to dense foliage	Fell and replace	C1
T8	Willow (<i>Salix fragilis</i>)	Major deadwood over highway. Partially collapsed stem, possible root plate movement. Recommended works: pollard, removing all stems back to bole at 1m.	Coppice to 1m stool	U
G16	Cherry and Portuguese Laurel	Mature shrubs with limited wider amenity value.	Fell to ground level	C2
T17	Holly (<i>Ilex aquifolium</i>)	Mature stems and some younger sucker growth.	Fell and replace	C1
T18	Elder (<i>Sambucus nigra</i>)	Suppressed shrub.	Fell and replace	C1
T19	Holly (<i>Ilex altacorensis</i>)	Twin stem with tight fork and bark inclusion. Nesting birds in canopy.	Fell and replace	C2
T20	Hawthorn (<i>Crataegus laevigata</i>)	Light ivy coverage, suppressed tree, poor form.	Fell and replace	C2
T21	<i>Weigela spp</i>	Large ornamental shrub.	Fell and replace	C1
T22	Juniper (<i>Juniperus squamata</i>)	Foliage sparse, low vitality.	Fell and replace	C1
T23	Cypress (<i>Cupressus spp.</i>)	Overly slender and weak specimen.	Fell and replace	C1

Fig. 3 - Tree Works

5.6. TREE WORKS BEST PRACTICE

- 5.6.1. All tree works shall be undertaken in accordance with BS:3998 2010 'Tree Work Recommendations'.
- 5.6.2. No vehicles will be driven beyond the existing driveway onto unprotected ground during the course of the tree work operations.
- 5.6.3. Chippings arising from the work will not be piled around the bases of trees on or off the site. Wood, brash and any other arisings from the tree work will not be burnt on site.
- 5.6.4. A properly qualified and experienced company will be employed who carry Public and Products Liability Insurance with a minimum of £2,000,000 cover and the relevant Employers Liability Insurance. A List of approved contractors is available from the Arboricultural Association – www.trees.org.uk.

5.7. TREE PROTECTION FENCING

- 5.7.1. Following the tree works, no further works in relation to the build will be undertaken, including construction, excavation or demolition, prior to the Tree Protection Fencing being installed as identified in the Tree Protection Plan.
- 5.7.2. The Tree Protection Fencing will consist of a vertical and horizontal scaffold framework braced well to resist impact. The vertical tubes will be spaced at a maximum distance of 3m and driven securely into the ground. Onto this framework welded mesh – ‘Heras’ style fencing panels or similar will be securely fixed. (See Appendix H).
- 5.7.3. All-weather signage stating ‘TREE PROTECTION AREA – KEEP OUT’ will be attached to the outer perimeter of the Tree Protection Fencing. A sample sign is attached in Appendix I of this report.
- 5.7.4. The fencing will be located to protect the retained trees and their rooting areas and will remain rigid and complete during development.
- 5.7.5. At no time will Tree Protection Fencing be removed or relocated contrary to the recommendations in this report, without professional arboricultural advice and without the prior consent of the Local Authority Tree Officer.
- 5.7.6. The appointed Site Manager will notify the Tree Officer once Tree Protection Measures are installed on site and 5 days’ prior to the Protection Fencing being removed on completion of development so that a representative from the Local Authority may visit the site if considered necessary.

5.8. GROUND PROTECTION

- 5.8.1. No works will commence, including construction or excavation, prior to the additional areas of Temporary Ground Protection being installed to the east of the property within the rooting areas of T30 (Monterey Pine) as identified in the Tree Protection Plan.
- 5.8.2. Temporary Ground Protection will provide a suitable pedestrian work area between the new dwelling and the Tree Protection Fencing during the course of the building works.
- 5.8.3. Temporary ground protection will be placed onto the existing patio, or onto the subbase of the patio if the pavers have been removed using rigid load bearing temporary roadway sheets such as ‘euroboards’ or similar.
- 5.8.4. The site manager will notify the Tree Officer once the Temporary Ground Protection is installed on site and 5 days’ prior to the Temporary Ground Protection being removed on completion of development so that a representative from the Local Authority may visit the site if considered necessary.

5.9. CONSTRUCTION EXCLUSION ZONE

- 5.9.1. The area behind the tree protection fencing and temporary ground protection is designated the Construction Exclusion Zone and is to be isolated from all activity during work on the site.

THERE WILL BE NO STORAGE, PARKING, VEHICLE MOVEMENT OR PEDESTRIAN ACTIVITY, TEMPORARY OR OTHERWISE, WITHIN THE CONSTRUCTION EXCLUSION ZONE AT ANY TIME DURING THE COURSE OF THE BUILDING PROJECT.

5.10. SERVICES

- 5.10.1. Water, gas and electricity will be connected to that of the existing property without trenching within the rooting areas of retained trees.
- 5.10.2. Soakaways, where required will be located 5m from the south or west elevation of the property and outside of the rooting areas of all retained trees.
- 5.10.3. If at any point these routes are found not to be viable then a revised plan will be drawn up in consultation with the Arboricultural Consultant and submitted to Arun District Council for approval.

5.11. REMOVING STRUCTURES WITHIN THE TREES' ROOTING AREAS

- 5.11.1. On completion of the build, the existing areas of block paving and hard standing to the east of the dwelling are to be removed within the rooting area of T30 (Monterey Pine) as shown on the Tree Protection Plan and the ground made ready for additional soft landscape planting.
- 5.11.2. Pavers and slabs will be lifted by hand, any concrete under the structures (retained as temporary ground support during the build) can be broken up using a manually operated pneumatic drill and working from the existing areas of hard standing. Debris, slabs and the sub-base of the pathways will be removed by hand, working backwards into the site and barrowing waste material into the storage areas at the front of the property, away from the retained trees.
- 5.11.3. No excavation will be made any deeper than that of the existing sub-base. Roots exposed during the course of this works will be immediately covered with a light topsoil or damp hessian to prevent desiccation.
- 5.11.4. Once all concrete, hardcore and debris has been removed, BS:3882 1994 (Specification for Topsoil) – 'Premium' grade topsoil will be spread as required to level the area with the surrounding soil and prevent desiccation of the exposed ground with an allowance for settlement. This will be spread promptly on the exposed ground surface and will be levelled using hand tools.
- 5.11.5. Where sited within the RPA of trees, the area will then be protected by extending the existing Tree Protection Fencing.

5.12. GENERAL CONSIDERATIONS

- 5.12.1. Roots can be killed by pollution of the rooting area by chemicals and leaching. Loose, granular or liquid materials, including cement mix and fuel will be stored on an impermeable membrane placed outside of the rooting areas of all trees.
- 5.12.2. Particular care will be taken in the planning of deliveries if they require wide or tall loads and plants with booms, rigs or counter weights which can cause serious and permanent damage to trees making their safe retention impossible.
- 5.12.3. Any transit or traverse of plant in proximity to the trees and or tree protection barriers will be conducted under the supervision of a banksman to ensure that adequate clearance from trees is maintained at all times.
- 5.12.4. There will be no open fires on site during the building works.

5.13. LANDSCAPING

- 5.13.1. The following rules will be followed during the course of new landscaping in order to prevent harm to the trees:
 - New plants within the identified RPAs of retained trees will be in small pots (nothing larger than 3lt). All planting within RPA of existing trees shall be notched planted and locally adjusted to avoid tree roots. All shrub planting to be undertaken by hand using hand tools only to minimize root damage. If significant roots are encountered, these will be left undamaged and dug around.
 - Tree roots can be damaged by severance, compaction, pollution and desiccation. In view of this, there should be no excavation or changes in ground levels within the identified rooting areas of retained trees following completion of the development.
 - Bulbs where proposed will be planted in random locations manually using dibbers and bulb planters relocating positions where necessary to avoid tree roots.
 - On completion of the build, new fence panels should include holes or gaps at ground level a minimum of 100x100mm to allow small mammals such as hedgehogs to forage within the property.
 - Where new fencing is proposed, post holes within the rooting areas of trees will be dug using a post hole digger to keep hole size to a minimum. Where substantial roots over 30mm are encountered, the location of the hole will be moved in order to avoid them. Post holes will be fully lined in order to prevent concrete coming into direct contact with tree roots.

5.14. NEW TREE PLANTING

- 5.14.1. A minimum of 10 replacement trees will be planted within the next or current planting season November to March (whichever is soonest) on completion of the building project. Planting will be undertaken when soils are moist and free from frost.
- 5.14.2. Planting trees too deep is a major cause for premature decline. Tree planting pits will be dug to the same depth as the woody roots to prevent settlement and sinking post planting. The soil backfilled into the planting pit will consist of 1/3 organic matter (well rooted manure or other compost) with 2/3 existing soil.
- 5.14.3. Trees will be staked with two stakes and a cross bar set as low down the tree as possible to allow for canopy and stem movement whilst supporting the structural function of the root system.
- 5.14.4. Tree stakes will be driven into the ground to a sufficient depth to provide full support before the tree is planted. Supporting straps around the stem will allow for the radial expansion of the stem. A rubber bung will prevent the tree from coming into direct contact with the tree stake.
- 5.14.5. Twice weekly watering will be undertaken during the first two growing seasons (April to October) following planting to ensure successful establishment. During periods of prolonged hot weather the frequency of any watering visits may need to be increased.
- 5.14.6. The volume of water applied to the base of each plant is to be determined by inspection on each occasion. Rain water and precipitation alone is not sufficient to irrigate containerised trees therefore irrigation is likely to be necessary in all but the most prolonged periods of wet weather. All watering should be sufficient to wet the entire root ball, including the lower levels of soil
- 5.14.7. During the third year the new plants will continue to be monitored, with irrigation resumed during periods of drought or where plants are showing signs of drought stress.
- 5.14.8. Any new trees or plants which fail to establish and thrive or which die, are removed or become seriously diseased within a period of 5 years following completion of the development, will be replaced with another of a similar size and species.
- 5.14.9. Materials will be delivered to site regularly in small quantities in order to keep vehicle delivery sizes small and on site storage to an absolute minimum.

5.15. UNFORESEEN CIRCUMSTANCES

- 5.15.1. In the event of unforeseen circumstances whereby it is not possible to work in accordance with the Arboricultural Method Statement then advice should be sought immediately from a qualified Arboriculturist.

THERE SHALL BE NO DEVIATION FROM THIS METHOD STATEMENT WITHOUT CONSULTATION WITH A QUALIFIED ARBORICULTURIST AND / OR THE WRITTEN CONSENT OF THE LOCAL PLANNING AUTHORITY.

4 APPENDICES

- A. Plans
- B. Contacts
- C. Survey
- D. Key
- E. BS: 5837 (Table 1) Cascade Chart for Tree Quality Assessment
- F. Tree Data
- G. Tree Protection Specification
- H. Tree Protection Signage
- I. Qualifications

A) PLANS

Attached as separate pdf:

- Tree Survey Plan ref: SURVEY 05585 2021
- Tree Protection Plan ref: TPP 05585 2021 R1

B) CONTACTS

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Local Planning Authority

Arun District Council
Tree and Landscape Team

C) SURVEY APPRAISAL

The trees were surveyed on Saturday 15th May 2021 from the garden of 1 Greenways Crescent and the public highway and from ground level only.

The weather conditions were dry and clear. Visibility was good.

Trees are dynamic living organisms subject to change, whose health and condition can be subject to significant change influenced by internal and external factors. The assessment of the tree in this report is based on the condition assessed at the time of inspection and is valid for 18 months.

If the condition of the tree evidently changes or the tree is subject to extreme weather conditions before this date; further inspection may be required. No tree is ever absolutely safe due to the unpredictable laws and forces of nature.

Only one tree is considered to be relevant to this planning application. This tree (Cedar) was assessed for its quality and benefits within the context of the proposed development and categorised in accordance with the recommendations in the BS:5837:2012 – ‘Trees in Relation to Design, Demolition and Construction’.

D) SURVEY KEY

Ref:	T1 = Tree 1 A1 = Area 1	G1 = Group 1 W1 = Woodland 1
Species:	Common name (Botanical name)	
Height:	Measured with a clinometer (m) where possible or estimated when part of a group	
Stem:	Stem diameter taken at 1.5m with girth tape or rule and recorded in millimeters	
Branch spread:	Paced measurements at compass points or with a laser measure.	
Crown clearance:	Existing height above ground level of canopy and / or first significant branch direction of growth in metres e.g. 2.4 (N) where relevant.	
Epics:	Lower canopy created by epicormic growth.	
Age Class:	Newly planted - 3 years following planting Young - Tree well established but with juvenile crown form Young Mature - Tree in first third of usual life expectancy for species Mature - Tree in second third of usual life expectancy for species Over Mature - Tree in final third of usual life expectancy for species / exhibiting signs of crown retrenchment & senescence Veteran - Older than usual for species or with historical/ cultural / ecological value	
General Observations:	Made with reference to physiological condition (health, vigour) and structural condition, noting evidence of decay, structural weakness and physical defect and preliminary management recommendations.	
Estimated Remaining Contribution:	Estimated in years - less than 10, 10-20, 20-40, 40+	
BS: 5837:2012 category rating:	In accordance with the guidelines of the British Standard.  Category 'A' tree (Green)  Category 'C' tree (Grey)  Category 'B' tree (Blue)  Category 'U' tree – Fell (Red)	
RPA Area	BS:5837 (2012) Root Protection Area calculation in square metres	
RPA Radius	BS:5837 (2012) Root Protection Area calculation circle radius in metres. ¹	
(e)	Estimated where access is not available to measure.	
(FEA)	Feathered form	
(Ave)	Average – usually in the case of multi-stem trees.	

¹ The root protection area radius is for information only and may not be appropriate in every case. BS:5837 advises that 'the RPA for each tree should initially be plotted as a circle centered on the base of the stem. Where pre-existing site conditions or other factors indicate that rooting may have occurred asymmetrically, a polygon of equivalent area should be produced. Modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distributions.'

E) BS:5837 (2012) TABLE 1: CASCADE CHART FOR TREE QUALITY ASSESSMENT

CATEGORY & DEFINITION		CRITERIA (including sub-categories where appropriate)		
Trees unsuitable for retention				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.	Trees that have a serious, irremediable, structural defect such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning. Trees that are dead or showing signs of significant, immediate and irreversible overall decline. Trees infected with pathogens of significance to the health and / or safety of other trees nearby or very low quality trees suppressing adjacent trees of better quality. NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve			
	Mainly Arboricultural Qualities	Mainly Landscape Qualities	Mainly cultural values including conservation	
Trees considered suitable for retention				
Category A Trees of High Quality with an estimated remaining life expectancy of at least 40 years.	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)	Trees, groups or woodlands of particular visual importance as arboricultural and / or landscape features.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood pasture)	
Category B Trees of Moderate Quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remedial defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality to merit the category 'A' designation.	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 contribution to the wider locality.	Trees with material conservation or other cultural value.	
Category C Trees of Low Quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	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 benefits.	Trees with no material conservation or other cultural value.	

F) SURVEY DATA

Ref.	Species	Height (m)	Dia. at 1.5m (mm)	Canopy				Crown Clearance	Life-stage	General Observations & Recommendations	Remaining Contribution	BS:5837 Category	RPA Radius	RPA Area
				N	E	S	W							
T1	Western Red Cedar (<i>Thuja plicata</i>)	5.5	400(e)	2	2	2	2	FEA	M	Dense bramble throughout foliage. No visual inspection of trunk due to dense foliage	20-40	C1	4.8	72
G2	3x Holly, 2x Ash	6	180 (ave)	2	1.6	1.8	1.6	2	Y	Slender, early mature tree. Foliage slightly sparse.	10-20	C2	2.2	15
T3	Elder (<i>Sambucus nigra</i>)	4	70 / 90	1.6	1.6	2	1.6	FEA	M	Multi-stem shrub.	20-40	C1	1.4	5.9
T4	Lawson Cypress (<i>Chamaecyparis Lawsoniana</i>)	10	170	2.4	1	2.4	2.4	2.5	Y	Light ivy coverage, elder at base.	20-40	C1	2	13
T5	Lawson Cypress (<i>Chamaecyparis Lawsoniana</i>)	10	250	3.3	3.3	2.5	2	2.5	Y	Foliage slightly sparse, etiolated form.	20-40	C1	3	28
T6	Elder (<i>Sambucus nigra</i>)	3-5	<100	3.2	2	2	2	1	M	Multi-stem shrub, poor form.	10-20	C1	1.2	4.5
T7	Ash (<i>Fraxinus excelsior</i>)	14-16	470 @1m	6	4.5	3.5	3	2	M	Tight forks, possible canker on lower trunk. Review tree condition when in leaf.	20-40	C1	5.6	100
T8	Crack Willow (<i>Salix fragilis</i>)	12-14	800(e)	6	8	1	3	4	OM	Major deadwood over highway. Partially collapsed stem, possible root plate movement. Recommended works: pollard, removing all stems back to bole at 1m.	10-20	U	9.6	290
T9	Monterey Cypress (<i>Cupressus macrocarpa</i>)	12-14	520	4	2	4	4	3	M	Fluted trunk, tight forks. Weak structural form.	20-40	C2	6.2	122
T10	Ash (<i>Fraxinus excelsior</i>)	12-14	230	4	2	2	2	5	Y	Suppressed etiolated form.	20-40	C2	2.8	24
T11	Sycamore (<i>Acer pseudoplatanus</i>)	12-14	370	1.5	4.5	4	1	2.5	Y	Asymmetrical canopy due to competition with adjacent trees.	20-40	C2	4.5	62
T12	Ash (<i>Fraxinus excelsior</i>)	12-14	250, 230, 340	6	6	2	6	4	M	Three stems from ground level. Asymmetrical canopy due to competition with adjacent trees. Base obscured by dense vegetation. Poor form but wider amenity value	20-40	B1	5.8	105

Ref:	Species	Height (m)	Dia. at 1.5m (mm)	Canopy				Crown Clearance	Life-stage	General Observations & Recommendations	Remaining Contribution	BS:5837 Category	RPA Radius	RPA Area
				N	E	S	W							
T13	Ash (<i>Fraxinus excelsior</i>)	12-14	510	5.5	7	6	5	2.5	M	Tree growing on old Anderson shelter. Restricted access to base.	10-20	C1	6.1	118
T14	Ash (<i>Fraxinus excelsior</i>)	12-14	630(@1.2m)	1.9	1.1	5	4	1.8	M	Lapsed pollard, decay pocket / habitat holes on old pollard knuckle. Early dieback in canopy. Small bark wound on trunk.	10-20	C1	7.6	180
T15	Golden Rain Tree (<i>Laburnum anagyroides</i>)	8	220, 160	4.5	1.8	3	2	4	OM	Bark necrosis, rhizomorphs indicating Honey fungus (<i>Armillaria spp.</i>) under bark.	<10	U	33	33.5
G16	Cherry and Portuguese Laurel	6	200(ave)	3	3	3	3	0	M	Large shrubs with limited wider amenity value.	10-20	C1	2.4	18.1
T17	Holly (<i>Ilex aquifolium</i>)	6	50, 60, 130	2.5	2	1.5	1.5	1.5	M	Mature stems and some younger sucker growth.	10-20	C1	1.8	10.4
T18	Elder (<i>Sambucus nigra</i>)	6	150	3.5	3.6	1	2	2	M	Supressed shrub.	10-20	C1	1.8	10.2
T19	Holly (<i>Ilex altaclarensis</i>)	6	160, 120	1.8	1.8	1.8	1.8	1.8	M	Twin stem with tight fork and bark inclusion. Nesting birds in canopy.	20-40	C2	2.4	18
T20	Hawthorn (<i>Crataegus laevigata</i>)	6	150	3.9	3	1	2	2	M	Light ivy coverage, supressed tree, poor form.	20-40	C2	1.8	10.2
T21	<i>Weigela spp</i>	4.5	70	1.2	1.2	1.2	1.2	FEA	M	Large ornamental shrub.	20-40	C1	0.8	2.2
T22	Juniper (<i>Juniperus squamata</i>)	7	150	2	2	2	2	3	OM	Foliage sparse, low vitality.	20-40	C1	1.8	10.2
T23	Cypress (<i>Cupressus spp.</i>)	4.5	60	2.4	0.5	0	0.5	3	OM	Overly slender and weak specimen.	10-20	C1	0.7	1.6
T24	Cotoneaster (<i>Cotoneaster cornubia</i>)	4	250@gl	3.5	2.8	2	2.1	1.5	OM	Multi-stem tree, roots lifting slabs. Dead stems cut to stumps.	10-20	C1	3	28

Ref:	Species	Height (m)	Dia. at 1.5m (mm)	Canopy				Crown Clearance	Life-stage	General Observations & Recommendations	Remaining Contribution	BS:5837 Category	RPA Radius	RPA Area
				N	E	S	W							
T25	Elder (<i>Sambucus nigra</i>)	4	220(e)	2.4	2.4	2.4	2.4	1	M	Multi-stem shrub.	20-40	C1	2.6	22
T26	Elder (<i>Sambucus nigra</i>)	3.5	80	1	2.4	2	1	1.5	M	Multi-stem shrub, poor form.	20-40	C1	1	2.9
T27	Strawberry tree (<i>Arbutus unedo</i>)	5.5	170	1.7	0	1	3	2.5	OM	Failure of main stem fork leaving long linear wound down remaining stem from 1.6m to ground level.	<10	U	2	13.1
T28	Viburnum (<i>Viburnum tinus</i>)	4	2x 80	1.5	0.5	1.5	2.5	2.5	M	Etiolated shrub group.	20-40	C1	1.4	5.8
T29	Monterey Cypress (<i>Cupressus macrocarpa</i>)	8	240	2.7	2.7	2.7	2.7	4	M	Suppressed by adjacent T30, reduced vitality. Foliage slightly sparse.	20-40	C1	2.9	26.1
T30	Monterey Cypress (<i>Pinus radiata</i>)	20+	970	8	5.3	6.9	12	6	M	Major deadwood in canopy, swept stem to south. Fibre buckling on compression side of trunk. No fungal fruiting bodies evident. Base clear, bark intact. No audible decay.	20-40	B1	11.6	426

G) TREE PROTECTION FENCING SPECIFICATION

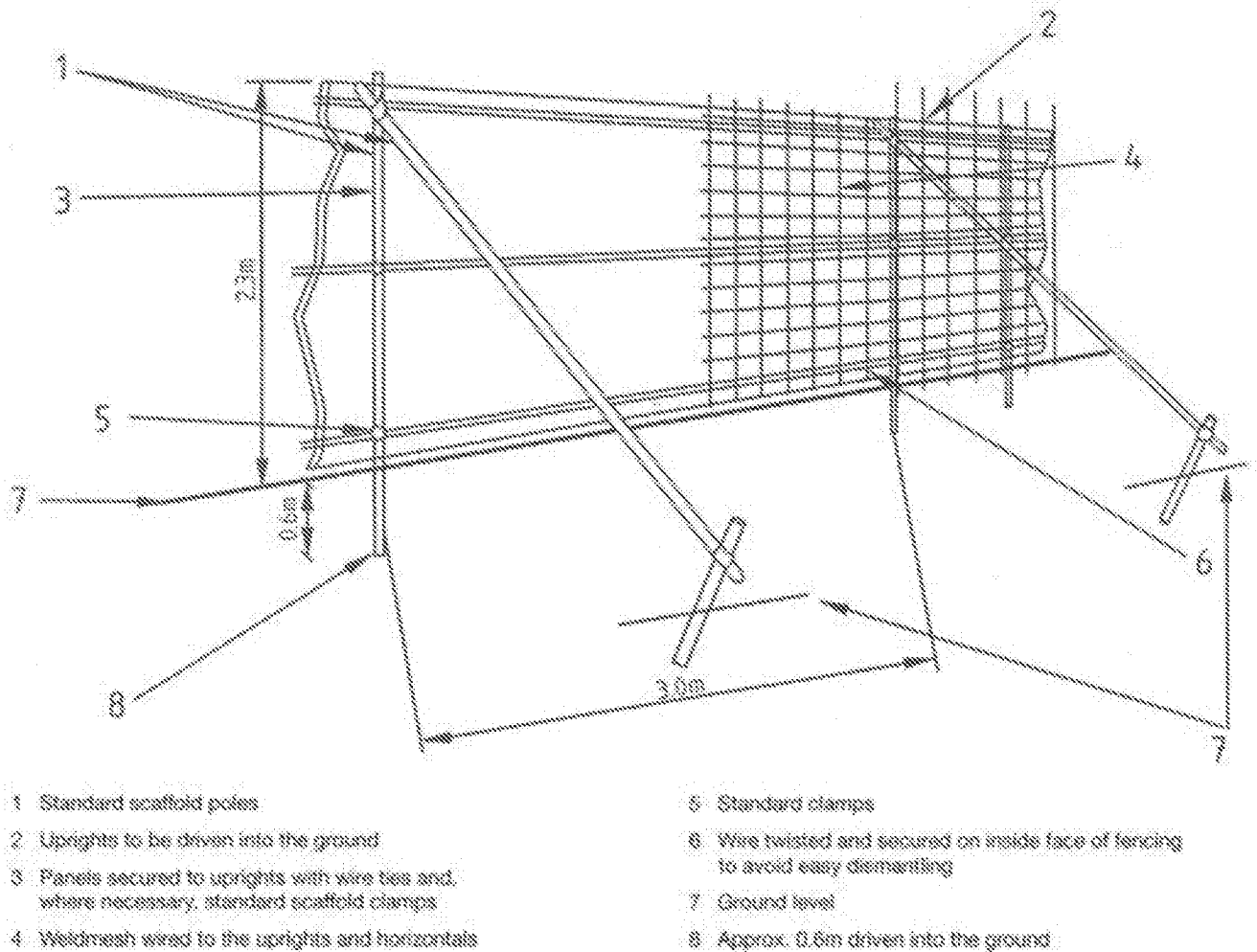


Figure 2. – Protective fencing for RPA

Extract from BS:5837 (2012) Trees in Relation to Design, Demolition and Construction.

H) TREE PROTECTION SIGNAGE



TREE PROTECTION AREA KEEP OUT !

**(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY
PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF
A TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY
LEAD TO CRIMINAL PROSECUTION.**

**ANY INCURSION INTO THE PROTECTED AREA MUST BE
WITH THE WRITTEN PERMISSION OF THE LOCAL
PLANNING AUTHORITY.**

I) QUALIFICATIONS

- This Arboricultural report has been prepared by Sarah Duckworth, Independent Arboricultural Consultant, trading as Duckworth's Arboriculture.
- I have over 17 years' experience working in the field of Arboriculture and for the past 15 years I have worked as a Local Authority Tree Officer both directly and independently providing contracted support. Since 2010 I have worked as a private consultant carrying out a range of Arboricultural Reports and Assessments for private clients.
- I hold the Royal Forestry Society's Professional Diploma (Level 6) for which I received the Lockhart Garrett Award commendation in 2009.
- I also hold the Arboricultural Association's Technicians Certificate (with Distinction) and am a LANTRA qualified Professional Tree Inspector.
- I am a Professional Member of both the Arboricultural Association and the Consulting Arborist Society (CAS).