WADEY TREES
CHARTERED CONSULTANCY

Arboricultural Impact and Mitigation Statement for Development Proposals at:

Land to rear of Regal House
Shripney Road
Bognor Regis
PO22 9NP

Proposal: Development of 9 detached dwellings with associated access and parking

Prepared for: Manhire LLP

Report Ref: WT 023-22 PO229NP AIA
Report Date: 22 June 2022

Prepared by:
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Summary Table 1: Overall impact on trees

Impact	Reason	High quality trees		Low quality trees	
		A	B	C	U
Trees to be removed	Construction activities	None	None	**T001, G002 (part), T003, T004, T005, T017, T020**	None
Trees to be removed	Risk management	None	None	None	None
Changes within RPAs	Construction activities	None	None	None	None
Retained trees to be pruned	Space for development	None	None	**G006, G018**	None
	Post occupancy pressures	None	None	None	None

1. INTRODUCTION

1.1 **Instruction:** This report was instructed by Manhire LLP to inspect the trees and to prepare information to accompany the planning submission for 9 dwellings with associated access and parking at land to rear of Regal House, Shripney Road, Bognor Regis, PO22 9NP. The report details all trees that are relevant to the siting of the proposed development and their positions are illustrated on the separately provided tree protection plan attachment WTP2.

1.2 **Site visit:** The site visit was undertaken on 1st April 2022. The trees were surveyed visually, externally and from ground level only. No detailed investigations were undertaken, samples, or internal decay detection readings taken for further analysis. All dimensions have been estimated unless stated otherwise. Weather conditions at the time of the survey were clear, still, and dry, with good visibility. During my visit, I took photographs to illustrate specific points in this report.

1.3 **Protected trees:** In this case, one oak and six hybrid black poplars along the eastern boundary are protected by the Arun District Council (ADC) tree preservation order TPO/BE/2/18 (trees identified on ADC plan as oak T1 and poplars G2). Therefore, it will be necessary to consult with them before any works other than certain exemptions can be carried out.

1.4 **Limitations of this report:** The following limitations apply to this report:

1.4.1 **Archaeology:** Although trees can grow in archaeologically sensitive locations, I have no specialist expertise in this discipline and this report does not consider this aspect.

1.4.2 **Ecology:** The Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act 2000, provides statutory protection to birds, bats and other species that inhabit trees. These could impose significant constraints on the use and timing of access to the site in addition to any of the tree constraints set out in this report. These issues are beyond my area of expertise, and I advise that you seek the advice from an ecologist on whether any such constraints apply to this site.

1.4.3 **Tree assessment and management advice:** The comments made about the health and stability of the trees within this report were correct at the time of inspection. It should be recognized that trees are dynamic structures that can never be completely predictable and may become unstable or partially unstable even in average weather conditions. Changes can occur not only to environmental triggers but also in response to biological or mechanical events. My inspection of the trees is made on the basis that they will be annually inspected in the future to identify any changes in condition and review the original recommendations. For these reasons, the tree assessment advice only remains valid for one year from the date that the trees were last inspected. No tree is ever absolutely safe due to the unpredictable laws and forces of nature.

The inspection was carried out from ground level. Where there was restricted access to the base of a tree, its attributes were assessed from the nearest point of access. Binoculars were used to observe features higher in the canopies such as foliage, extension growth and/or bud proliferation. No soil or tissue samples were taken during this inspection. No invasive

diagnostic equipment was used to detect decay, and where practicable and reasonable, ivy was removed during the inspection process to get a better view of potential defects. Where this was not possible, it has been noted as a recommendation to be removed to allow detailed re-inspection.

1.5 **Technical references:** This arboricultural impact assessment and arboricultural method statement is based on the following primary technical references:

- British Standards Institution (2012) BS 5837: Trees in relation to design, demolition and construction – Recommendations
- National Planning Policy Framework (NPPF) revised on 20 July 2021 setting out the Governments planning policies for England and how these should be applied.

1.6 **Drawings and documents provided:** Several plans and documents were provided as part of the current planning proposal. My drawings and reports have been developed in context with the following provided information:

- Land survey reference S1635 Regal House TOPO_23 03 22, received by email on 30th March 2022
- Layout, reference Land to rear of Regal House Rev06 bound, received by email on 13th June 2022

1.7 **Qualifications and experience:** This report is based on my site observations and the provided information, interpreted in the context of my experience. I have experience and qualifications in arboriculture that can be reviewed at https://wadeytrees.co.uk/wp-content/uploads/2020/03/CV-Mark-J-Wadey-2.pdf

2. SITE VISIT AND COLLECTION OF DATA

2.1 **Brief description of site and surrounding tree cover:** The proposal site is located on land adjacent to the rear of Regal House (Image 1). The main trees associated with the proposal are located along the eastern boundary where they are partially visible from the Shripney Road (A29). These form a line of six mature hybrid black poplars and one maturing oak which are protected by the TPO.

Image 1: The site boundaries are approximately indicated by the yellow outline

2.2 **Tree assessment method:** The existing tree stock has been identified and graded in line with the current British Standard BS 5837 2012: Trees in relation to design, demolition and construction - Recommendations to enable informed decisions to be made regarding tree retention. The report also details methods of protection to be implemented to safeguard the retained trees.

2.3 **Independent assessment of trees:** I inspected each tree and have indicated the numbering on the tree protection plan (WTP2) in Appendix 1. I identified obvious groups where appropriate. For each individual tree and group, I collected information on species, height, diameter, maturity and potential for contribution to amenity in a development context. As advocated in BS 5837, each tree was then allocated to one of four categories which reflected its suitability as a material constraint on development:

- Category A: Trees of high quality and value
- Category B: Trees of moderate quality and value
- Category C: Trees of low quality and value
- Category U: Trees unsuitable for retention, usually to be removed

This information is recorded in the tree schedule included as Appendix 2, with further explanatory notes.

2.4 **The root protection areas and location of tree protection:** BS5837:2012 gives recommendations for the areas of root protection to be the equivalent to the area of a circle centred on the tree with a radius of at least 12 times the trunk diameter. This distance is given for guidance to each tree or group in the schedule. In practice, the siting of the specific protection measures may be different. The implication of the root protection area is that no significant disturbance should occur within it if the trees are to be successfully retained.

3. WORKING WITH THE DESIGN PROPOSAL

General background

3.1 **Tree constraints as part of the design layout:** Following the inspection of the trees, the relevant collected information was used to provide constraints guidance to the architect based on the locations of all the category A and B trees. All the category C and U trees were discounted because they were not considered worthy of being a material constraint. This guidance identified the estimated developable footprint of the site and was considered by the architect to arrive at the submitted design. For conciseness, and because it is not a BS recommendation, these detailed constraints have not been included in this report.

Taking account of the above points, I have analysed these constraints to properly inform the planning process and minimise any negative impact on the existing tree stock. Retaining the most important trees in this way means that this proposal will maintain a sustainable tree canopy that will be in harmony with its new surrounding buildings and landscape; thereby enhancing any overall impact on the wider local amenity.

3.2 **Relevant Planning Policy taken account during the design stage**: The requirements of the National Planning Policy Framework (NPPF) can be met by the use of planning conditions to require the mitigation measures set out in this report. These proposals comply with the NPPF in terms of achieving sustainable development, good design and conserving the natural environment by retaining all of the important trees adjacent the site. Paragraphs 54 and 55 of the NPPF deal with planning conditions. In this respect, sufficient detail has been provided so an enforceable planning condition requiring the trees to be protected can be based on the accompanying arboricultural method statement (AMS) and associated tree protection plan WTP2.

4. DEVELOPMENT INFLUENCE ON TREE COVER AND PROPOSED MITIGATION

Specific issues on this site

4.1 **Tree protection plan WTP2:** Plan WTP2 in Appendix 1 has been prepared based on the latest layout and is intended to provide a preliminary indication of the tree issues. It shows the existing trees numbered, with high categories (A & B) and low categories (C & U) in their respective colours as set out in paragraph 2.3 above. Trees to be removed are highlighted with a red crown outline. A preliminary location for protective fencing is illustrated with black post and rail annotation and the RPA to be protected behind is shown with the black diagonal hatching. Any ground protection is shown with a blue cross hatch annotation, and in this case, there are no precautionary areas. I stress that this plan is intended to provide an

overview of how the tree protection will work and may require more detailed adjustments for the final submission in the context of any feedback.

4.2 **Trees to be removed for development:** Six trees (T001, T003, T004, T005, T017 and T020) and part of one group (G002) are proposed for removal to facilitate the development. However, they are low quality and do not offer any significant amenity when viewed from outside the site. The scheme offers sufficient space for a new landscaping scheme that could include trees or shrubs that will easily mitigate these losses. If required, it would be appropriate for the precise detail to be agreed with the LPA through a planning condition.

4.3 **Tree pruning to facilitate access/working space:** Some pruning of lateral branches on G006 and G018 may be required to facilitate working space for ground workers, but this can be easily achieved without harming the trees' health or appearance.

4.4 **Site access and construction of buildings:** The RPAs of retained trees do not unduly affect construction access or the location for building foundations. Provided that protective fencing and ground protection is installed/retained correctly, there is unlikely to be any adverse effects on trees from construction works or traffic moving in and out of the site.

4.5 **Installation of new surfaces:** There are no new surfaces proposed within the RPAs of retained trees, so there is no significant risk relating to trees from these activities.

4.6 **Storage and movement of materials:** There is ample space outside RPAs for the movement and storage of materials and there is no significant risk of harm to trees from these activities.

4.7 **Drainage and other services:** Drainage runs, soakaways and the installation of other services can cause disruption to RPAs and result in important trees being damaged. I advise that these matters are considered at an early stage and agreed with the LPA prior to the development phase commencing.

4.8 **Post occupancy pressures on trees:** The location and character of the proposal has been achieved with proper consideration of the important trees around the site. The new houses are detached with ample garden space looking out towards the distant countryside, so there will be wide-open views for new occupiers and plenty of amenity space available without the need to prune or remove trees.

The most obvious trees (T008 to T014) are tall but they have high canopy clearance from ground level so there is plenty of light and space available for new occupiers' underneath (Image 2). Also, they are located to the north and east of the new properties so there will be adequate sunlight able to reach the rear gardens throughout the day from the south, and these trees will not obstruct significant amounts of skylight or be unduly dominant in the future. After discussions with the architect, it was confirmed there is sufficient space within the internal design and rear garden areas to allow the occupants normal and reasonable access to daylight.

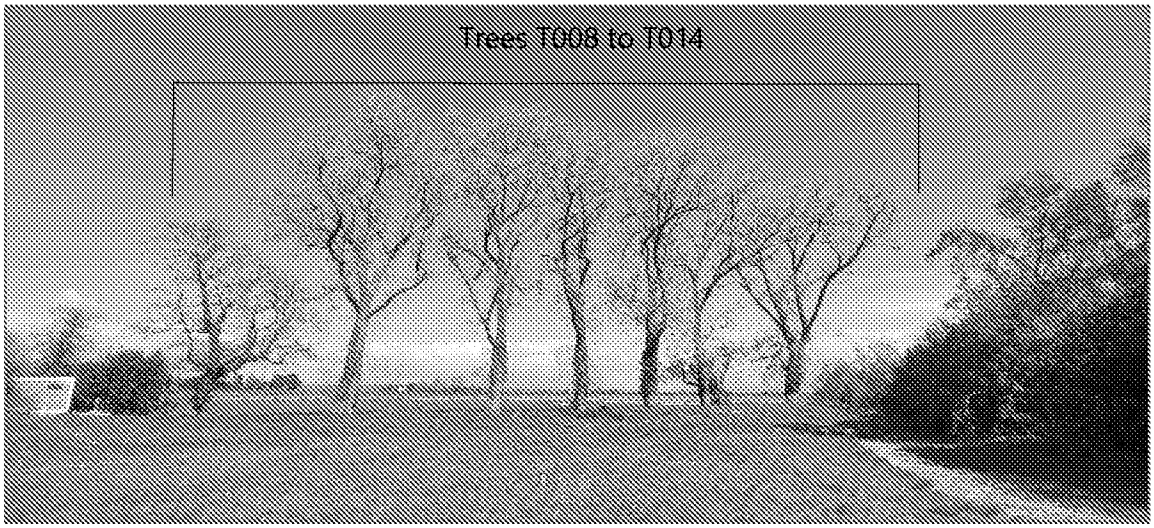

Image 2: The trees are tall, but they have high canopies allowing distant views and light underneath

In taking a balanced approach, I believe these trees will also provide some shaded areas that will give refuge to occupiers in the hot summer months, providing more of a benefit to them than an inconvenience. On this basis, the new occupiers should be able to have normal use of their property.

At present, there are no obvious visible defects that warrant significant pruning of the longer limbs and there is no requirement to do this to facilitate the development proposal. However, these trees have reached a time in their life where they are likely to require some remedial pruning in the future to minimise stem failure, irrespective of this development proposal (Image 3). If these works are required at some stage, I believe they could be easily achieved without adversely affecting the health or amenity value of these trees.

Image 3: Some trees have overly long limbs which may require future pruning irrespective of this development proposal

Furthermore, these trees are known to be protected by a tree preservation order, so if there are any unreasonable applications in the future to severely prune or fell them, the LPA will

have the opportunity to control the tree work application process and impose any necessary protective measures.

Trees and vegetation along the southern boundary (G006 and T007) will continue to provide useful canopy cover along the southern boundary and it will be in the interests of new occupants to retain them to retain seclusion and privacy.

In the context of all these points, I believe that the development is unlikely to bring new pressures on trees, and where formal tree protection measures apply, the LPA will be able to resist unreasonable applications for tree work, with such decisions likely to be supported at appeal.

5. CONCLUSIONS

5.1 This proposal will result in the loss of a small number of trees that are all low category because of their poor condition or small size. Their loss is easily replaced by new tree planting in sustainable locations so there will be no harm to the existing visual amenity. The significant trees adjacent to the site will be retained, with sufficient scope to protect them during development. If adequate precautions to protect the retained trees are implemented as recommended in this report, and as may reasonably be required by consent conditions, the overall impact of the proposal on local amenity will be low and limited to the short term only. The proposals take proper account of potential pressures for pruning and felling post-occupancy. Where formal tree protection measures apply, it is reasonable for the LPA to refuse inappropriate works and could be expected to have support at appeal. This submission has demonstrated that it is reasonably practicable to develop the scheme without significant harm to retained trees. Any additional information required for reassurance, can be provided by way of conditions attached to the planning permission. The scheme is compliant and accords with the principles set out in the National Planning Policy Framework. It is technically compliant with BS5837:2012 and the way in which that Standard has been applied. Therefore, I do not believe there are supportable or reasonable grounds for refusing permission in terms of the trees.

6. RECOMMENDATIONS TO PROTECT TREES DURING DEVELOPMENT

6.1 **Arboricultural method statement:** The successful retention of trees depends on the quality of the protection and the administrative procedures to ensure those protective measures remain in place whilst there is a realistic risk of damage. An effective means of doing this would be through the arboricultural method statement (set out in the attached Arboricultural Method Statement provided in Appendix 3) that can be specifically referred to in a planning condition. The details of this arboricultural method statement should be made available to the builders and its guidance followed to ensure that the trees are fully protected during the construction works. If appropriate, the builder should instruct an arboricultural consultant to comply with any necessary planning conditions relating to pre-commencement meetings and/or agree protection with ongoing supervision requirements sanctioned by the LPA.

6.2 **Provision of a construction method statement:** Providing construction information (that may directly influence tree protection requirements) A construction method statement is a

description of how operations that may affect trees will be carried out to minimise any adverse impact on them. The details of how the site will be managed are construction and contractual matters that can only be finalised once the post-consent detailed planning begins. For that reason, at this stage in the planning process, it is only possible to list a summary of the issues that will require more detailed consideration once consent is issued. The issues that may require further clarification on this site include:

- The order of work on site, including demolition, site clearance and building work
- Erection and maintenance of security hoarding near trees
- Who will be responsible for protecting the trees on site?
- Detailed proposals for inspecting and supervising the tree protection
- The parking arrangements for workers and visitors
- A schedule of emergency contact numbers
- Areas for loading and unloading of materials and storage of materials and plant
- Where site facilities will be located and when will they be installed
- How machinery and equipment (such as excavators, cranes and their loads, concrete pumps and piling rigs) will enter, move on, work on and leave the site
- Measures to control the emission of dust and dirt during construction near trees
- Recycling and storage of waste near trees
- Details of earthworks, grading and mounding and removal of spoil, including any planned lowering or raising of ground levels
- Details of upgrading/removing/replacing existing surfacing and areas where this will happen, including detailed and precise cross-sections where no-dig surfacing is to be installed
- Precise services locations, including the method of excavation when near trees
- Proposed locations of site facilities/crane location/material storage/loading bays etc

Note: It is not my role as an arboricultural consultant to detail the timing and implementation of these measures, although I can input into the process and will need to confirm that the final proposals will not adversely affect retained trees

7. RECOMMENDATIONS TO ENHANCE TREE COVER

7.1 **New tree planting strategy and enhancement landscaping opportunities:** In the context of the loss of trees, sufficient space has been allowed for a comprehensive new landscaping scheme that could include heavy standard and semi-mature trees. It would be appropriate for the precise detail to be agreed with the LPA through a planning condition.

7.2 **New trees – size at planting and other detailed specifications:** If instant impact on landscaping is required, the new trees will need to be as large as possible for the planting space available. The supply, planting and maintenance of all new trees will need to be in accordance with BS 8545, with an expectation that any planning conditions will secure the provision of appropriate maintenance and replacement in the event of any trees not surviving to independence in the landscape.

7.3 **Tree establishment and care:** For further advice on young tree establishment a useful introductory guide has been produced by the Arboricultural Association which can be found at https://www.trees.org.uk/Help-Advice/Guide-to-Young-Tree-Establishment. This sets out the principles of good tree choice, planting practices and aftercare.

[redacted]

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Appendices:

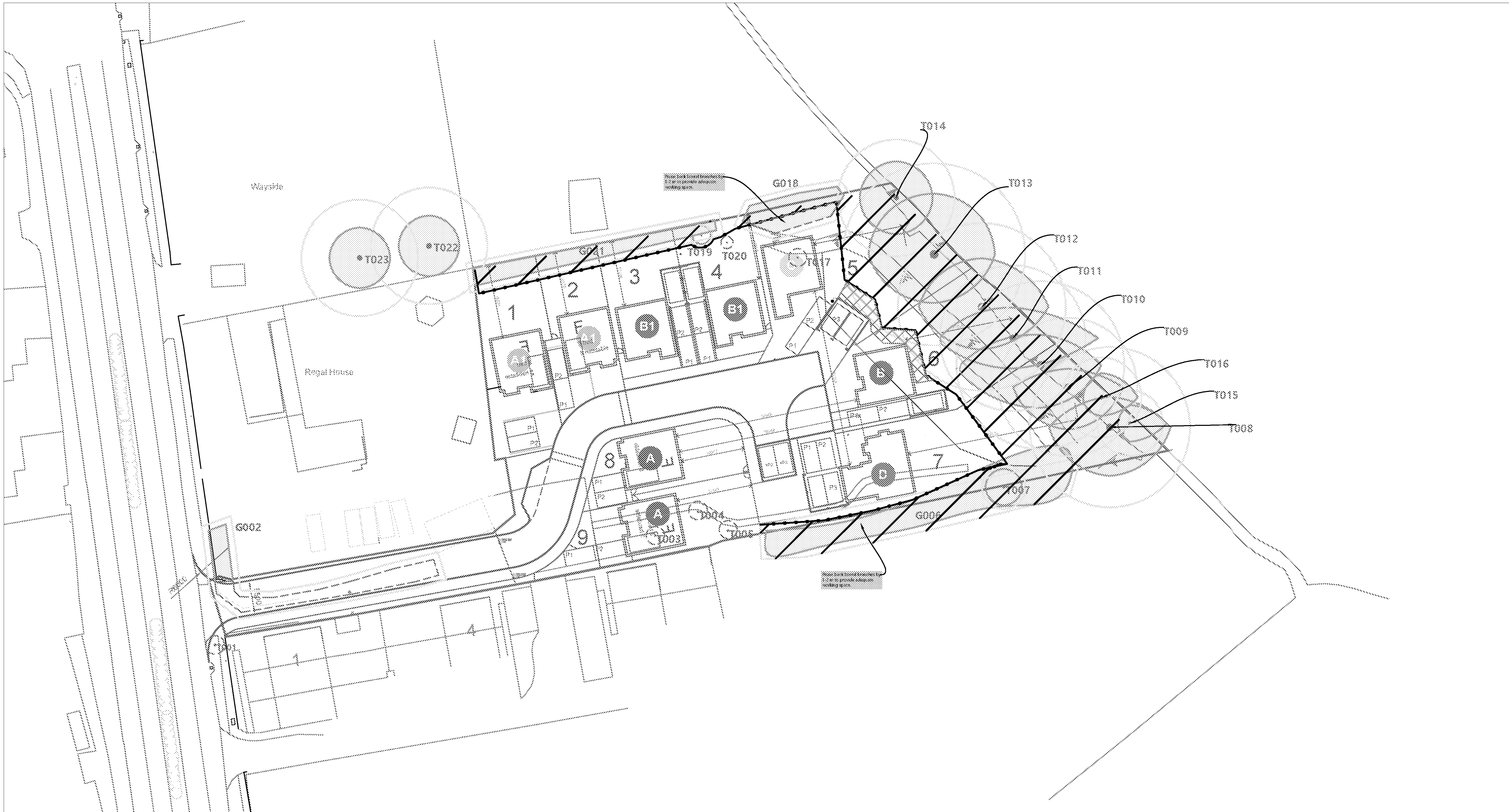
1 The tree protection plan WTP2

2 Data collection – Tree schedule & explanatory notes

3 Arboricultural Method Statement

Appendix 1 – The Tree Protection Plan: Illustrating tree protection and management proposals – WTP2

Content: 1 x A2 plan @ scale 1:500



Key:

- Trees - colour coded by BS 5837category
- BS category A Trees of high quality
- BS category B Trees of moderate quality
- BS category C Trees of low quality
- BS category U Trees unsuitable for retention
- RPA boundaries
- Trees to be removed
- Tree canopies
- Existing layout
- Proposed layout
- Site boundary
- Ground protection
- Construction exclusion zone (CEZ) to be protected by fencing

For further information, refer to the WT tree schedule. Do not scale from this drawing (unless for planning purposes), please check all dimensions on site, and notify us of any discrepancies. Wadey Trees Ltd cannot be held responsible for inaccuracies in the topographical plan on which this drawing is based.

This drawing is designed to reflect only the principles of layout and/or design insofar as these relate to the protection of trees to be retained, and should NOT be read as a definitive engineering or construction method statement. Reference should be made to the architect or structural engineer, as appropriate, over any matters of construction detail or specification, or any engineering standards or regulatory requirements relating to proposed structures, hard surfaces or underground services.

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CLIENT: Manhire LLP
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ARCHITECT:

DRAWN:	CHECKED:	DATE:	REVISION:
EJS	MJW	22 June 22	

LOCATION OF TREES, CATEGORISATION & DEVELOPMENT AT: Land to rear of Regal House, Shripney Rd, Bognor Regis, PO22 9NP

DRAWING TITLE & NO: **WTP2**

SCALE:	SHEET SIZE:	SHEET NO:
1:500	A2	

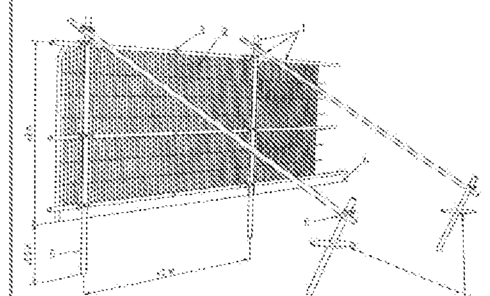
WT PROJECT NO:	STATUS:
WT 023-22	PUBLISHED

CLIENT PROVIDED PLAN REF: Land to rear of Regal House Rev06 bound

Tree Protection Guidance

Examples of Standard Barriers

Protective barriers are not to be moved without written consent from the Local Planning Authority (LPA) and any adjustments should be under direct supervision of the project Arboriculturist to maintain the Root Protection Area (RPA) of each tree. No materials, chemicals, machinery or vehicles must be stored within the protected area as defined on the Tree Protection Plan.



Extract from BS5837: 2012 Figure 2—Default specifications for tree protective fencing.

Image 1: Scaffold and Heras panels can provide standard protection that is fit for purpose.

Tree Protection Guidance

Ground Protection

In all cases, the objective should be to avoid compaction of the soil from the constant foot traffic and heavy vehicles, especially in wet conditions, so that tree root functions remain unimpaired. New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

Where construction working space or temporary construction access is justified within the RPA, this should be facilitated by a set-back in the alignment of the tree protection barrier. In such areas, suitable existing hard surfacing that is not proposed for re-use as part of the finished design should be retained to act as temporary ground protection during construction, rather than being removed during demolition. The suitability of such surfacing for this purpose should be evaluated by the project arboriculturist and an engineer, as appropriate.

Ground protection examples:

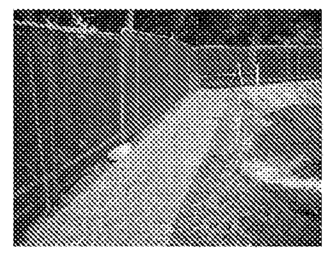


Image 1: Mulch underneath plyboards can be adequate protection for foot traffic purposes.

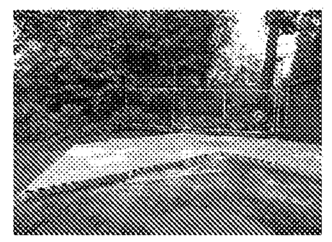


Image 2: Bespoke boards designed to fit around the build area are sturdy and useful where small extensions are being installed.

Appendix 2 – Data Collection: (In accordance with BS 5837 (2012), all tree schedule data has been collected based on the recommendations set out in subsection 4.4 of BS 5837)

NOTE: Colour annotation is A trees green background; B trees blue background; C trees grey background; U trees red background

Ref.	Species	Height (m)	Stem Diam (mm)	Spread	Physiological Cond	Structural Cond	Life Stage	General Observations	Rem. Contrib.	Retention Category	RPA	Recommendations
T001	Common Ash *(Fraxinus excelsior)*	6	250		Fair	Fair	Young	Grows against telegraph pole	10+ Years	C1	Radius: 3.0m. Area: 28 sq m.	Fell for development
G002	Mixed species x30 *(Mixed species)*	4	30 stems: 150(avg)		Fair	Fair	Semi Mature	Regularly clipped hedge	10+ Years	C1,2	Area: 110 sq m, plus a 1m buffer.	Fell (part) for development
T003	Norway Maple *(Acer platanoides)*	7	200		Good	Good	Newly planted	Small insignificant tree	30+ Years	C1,2	Radius: 2.4m. Area: 18 sq m.	Fell for development
T004	Cypress *(Chamaecyparis sp.)*	3	200		Good	Good	Newly planted	Small insignificant tree	20+ Years	C1,2	Radius: 2.4m. Area: 18 sq m.	Fell for development
T005	Cypress *(Chamaecyparis sp.)*	3	200		Good	Good	Newly planted	Small insignificant tree	20+ Years	C1,2	Radius: 2.4m. Area: 18 sq m.	Fell for development

Ref.	Species	Height (m)	Stem Diam (mm)	Spread	Physiological Cond	Structural Cond	Life Stage	General Observations	Rem. Contrib.	Retention Category	RPA	Recommendations
G006	Privet x20 *(Ligustrum vulgare)*	8	20 stems: 200(avg)		Fair	Fair	Semi Mature	Provides some useful boundary screen	10+ Years	C1,2	Area: 214 sq m, plus a 1m buffer.	Prune back lateral branches by 1-2m to provide adequate clearance for construction access.
T007	Plum *(Prunus domestica)*	9	300	N:3 E:3 S:3 W:3	Fair	Fair	Early Mature	Storm damaged limbs and sparse crown	20+ Years	C1,2	Radius: 3.6m. Area: 41 sq m.	
T008	Black Hybrid Poplar *(Populus x canadensis)*	20	1100	N:5 E:10 S:8 W:10	Good	Good	Mature	Deadwood > 30mm diameter overhanging the site. Ivy over trunk.	40+ Years	B1,2	Radius: 13.2m. Area: 547 sq m.	
T009	Black Hybrid Poplar *(Populus x canadensis)*	20	950	N:3 E:9 S:7 W:9	Good	Good	Mature	Deadwood > 30mm diameter overhanging the site. Ivy over trunk. Historic stem failures visible.	40+ Years	B1,2	Radius: 11.4m. Area: 408 sq m.	
T010	Black Hybrid Poplar *(Populus x canadensis)*	25	1150	N:5 E:10 S:7 W:16	Good	Good	Mature	Deadwood > 30mm diameter overhanging the site. Large over-extended branches over the site. Restrictions to access: Dense ivy present.	40+ Years	B1,2	Radius: 13.8m. Area: 598 sq m.	

Ref.	Species	Height (m)	Stem Diam (mm)	Spread	Physiological Cond	Structural Cond	Life Stage	General Observations	Rem. Contrib.	Retention Category	RPA	Recommendations
T011	Black Hybrid Poplar *(Populus x canadensis)*	25	1000	N:5 E:14 S:5 W:14	Good	Good	Mature	Deadwood > 30mm diameter overhanging the site. Ivy over trunk. Large over-extended branches over the site. Stem cavity visible at 15m with good occluding wound wood.	40+ Years	B1,2	Radius: 12.0m. Area: 452 sq m.	
T012	Black Hybrid Poplar *(Populus x canadensis)*	25	1150	N:8 E:11 S:7 W:11	Good	Good	Mature	Deadwood > 30mm diameter overhanging the site. History of stem failures evident. Ivy over trunk.	40+ Years	B1,2	Radius: 13.8m. Area: 598 sq m.	
T013	Black Hybrid Poplar *(Populus x canadensis)*	25	1300	N:10 E:10 S:8 W:12	Good	Good	Mature	Deadwood > 30mm diameter overhanging the site. Ivy over trunk. Large over-extended branches over the site.	40+ Years	B1,2	Radius: 15.0m. Area: 707 sq m.	
T014	Pedunculate Oak *(Quercus robur)*	15	800	N:6 E:6 S:6 W:6	Good	Good	Mature	Ivy over the trunk	40+ Years	B1,2	Radius: 9.6m. Area: 290 sq m.	

Ref.	Species	Height (m)	Stem Diam (mm)	Spread	Physiological Cond	Structural Cond	Life Stage	General Observations	Rem. Contrib.	Retention Category	RPA	Recommendations
T015	Common Ash *(Fraxinus excelsior)*	10	450	N:3 E:6 S:3 W:2	Fair	Fair	Early Mature	Suppressed by adjacent trees.	20+ Years	C1,2	Radius: 5.4m. Area: 92 sq m.	
T016	Common Hawthorn *(Crataegus monogyna)*	8	550	N:4 E:6 S:3 W:3	Good	Fair	Mature		20+ Years	C1,2	Radius: 6.6m. Area: 137 sq m.	
T017	Norway Maple *(Acer platanoides)*	5	150		Good	Good	Newly planted	Small insignificant tree	30+ Years	C1,2	Radius: 1.8m. Area: 10 sq m.	Fell for development
G018	Holly x10 *(Ilex sp.)*	4	10 stems: 100(avg)		Fair	Fair	Young		20+ Years	C1,2	Area: 74 sq m, plus a 1m buffer.	Prune back lateral branches by 1-2m to provide adequate clearance for construction access.
T019	Norway Maple *(Acer platanoides)*	6	150		Good	Good	Newly planted	Small insignificant tree	30+ Years	C1,2	Radius: 1.8m. Area: 10 sq m.	
T020	Field Maple *(Acer campestre)*	4	100	N:1 E:1 S:1 W:1	Good	Good	Newly planted	Small insignificant tree	30+ Years	C1,2	Radius: 1.2m. Area: 5 sq m.	Fell for development

Ref.	Species	Height (m)	Stem Diam (mm)	Spread	Physiological Cond	Structural Cond	Life Stage	General Observations	Rem. Contrib.	Retention Category	RPA	Recommendations
G021	Mixed Species Group x30 *(Group, mixed species)*	6	30 stems: 100(avg)		Fair	Fair	Semi Mature	Provides useful boundary cover.	20+ Years	C1,2	Area: 96 sq m, plus a 1m buffer.	
T022	Monterey Cypress *(Cupressus macrocarpa)*	16	800	N:5 E:5 S:5 W:5	Fair	Fair	Mature	Significant crown and/or tip die-back. Broken/Hangers over the target area. Pruning history - reduced in the past.	20+ Years	C1,2	Radius: 9.6m. Area: 290 sq m.	
T023	Monterey Cypress *(Cupressus macrocarpa)*	16	800	N:5 E:5 S:5 W:5	Fair	Fair	Mature	Significant crown and/or tip die-back. Broken/Hangers over the target area. Pruning history - reduced in the past.	20+ Years	C1,2	Radius: 9.6m. Area: 290 sq m.	

Appendix 2 - Data Collection Cont'd: Explanatory notes

The site data columns and abbreviations: The relevant tree data was collected and recorded as described in the table below:

Structure: The following categories are assigned appropriately to each landscape feature: T=(tree); G=(group); H=(hedge); C=(coppiced); M=(multi-stemmed); P=(pollard); Sh=(shrubs); S=(stump) or W=(woodland).

Species: Species identification is based on visual observations. Where there is some doubt over tree identity, sp is noted after the genus name in the botanical names section to indicate that the species cannot be reliably identified at the time of the survey. Where there is more than one species in a group, only the most frequent are noted and not all the species present may be listed. The tree botanical names surveyed on this site are listed in column 2.

Height: Height is estimated to provide an indication of the size of the tree.

Stem diameter: Stem or trunk diameter is estimated or measured and recorded in 2.5cm increments as advised in BS 5837 Table D1. It is measured with a diameter tape unless access is restricted, direct measurement is not possible because of ivy on the trunk or the tree is assessed as poor quality. The point of measurement and the adjustments for stem variations are as advised in Figure C1 of BS 5837. The RPAs given below have been used for single stem trees and the equivalent resultant combined stem diameter for multi-stemmed trees.

Branch height and crown spreads: Where crown accuracy varies from site observations and the original topographical survey, new measurements of the crown may be taken and illustrated on the plan as a crown amendment. These are taken in the context of the development proposal where it is considered there may be encroachment from the development. For example, it may only be necessary to record the measurement of one side of the canopy where it overhangs the site, or where there is likely to be some kind of impact to branches/crown of the tree from development proposals. If there are any significant trees missing from the original topographical survey, their positions are estimated and branch spread is taken as a minimum at the four cardinal points, to derive a representation of the crown. Also, where it is considered appropriate, existing height above ground level of: 1) first significant branch and direction of growth (e.g. 2.4-N); 2) canopy will be recorded to inform on ground clearance where access issues may be a concern.

Tree condition: The tree condition is represented by the surveyor's initial visual observations of its health and/or structural integrity. These are separated into the following subcategories:

Physiological condition (P)	Description
Good	Appears to be healthy and have good vitality.
Fair	Generally, in good health but with visible signs of decline or reduced vitality.
Poor	Obviously in poor health and significant decline.

Dead	Dead, or very little live growth.
Structural condition (S)	**Description**
Good	No significant structural defects/weaknesses.
Fair	Some visible defects but no significant hazards/weaknesses.
Poor	Significant defects/weaknesses or dangerous/potentially dangerous condition.

Life stage: For the purposes of this report the following life stages are recorded as one of seven categories below. Age class is indicative and will vary between species:

LIFE STAGE	DEFINITION
Newly planted	Very young, newly planted trees at least within the last 5 years.
Young	Small establishing tree in its youngest years that could be transplanted with specialist equipment, i.e. less than 150mm in diameter at 1.5m.
Semi-mature	An established tree, but with some growth to make before reaching its potential maximum size. A tree within its first third of lifespan.
Early mature	A tree that is reaching its ultimate potential height, whose growth rate is slowing down but if healthy, will still increase in stem diameter and crown spread. A tree in the second third of life span.
Mature	A mature specimen with limited potential for any significant increase in size, even if healthy. A tree within its final third of expected lifespan.
Over mature	A senescent (declining/degradation) or moribund specimen of low vigour within its final third of expected lifespan. Possibly also containing sufficient structural defects with safety and/or duty of care implications.
Veteran	Specimens exhibiting features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.
Ancient	A tree which is remarkably old for its species.

General observations: Only relevant features such as tree physiology, structural condition, decay and crown or branch structure that may impact on the proposed development are recorded. If there are no notes, then the presumption should be that no relevant features were observed.

Remaining contribution: This is broadly interpreted as <10 years, 10+ years, 20+ years, or 40+ years to provide some indication of a tree's potential for future contribution to its locality.

BS category: Each tree is placed into a relevant coloured category based on their quality and contribution they offer in terms of their arboricultural, landscape or cultural values. This assessment is

based on the BS5837 Table 1 cascade chart for tree quality assessment found at the beginning of Appendix 2 in this report.

RPA measurements: For single stem trees, the RPA is calculated as an area equivalent to a circle with a radius 12 times the stem diameter. For trees with more than one stem, one of the two calculation methods set out in paragraph 4.6 of BS5837 recommendations will be used. In all cases, the stem diameter(s) will be measured in accordance with Annex C and Annex D of that document. The calculated RPA for each tree will be capped to 707 m2.

Future tree safety inspections: Our assessment of the trees was carried out on the basis that a re-inspection would be carried out within a year of the assessment visit and our advice on tree condition must be reviewed annually from the date of that visit.

Tree work considerations

1. **Tree works:** The inspection of all trees was of a preliminary nature and only defects visible from the ground have been identified. Each individual tree may not have been inspected closely because of access difficulties and only defects visible from the inspection point have been noted. In addition to tree removals for development and management reasons, further works are listed to reduce the threats from retained trees. All trees on the site should be checked by the contractor at the time of carrying out the main tree works to deal with any emerging safety issues in the context of the consented development.
2. **Reporting during work operations:** In the context of the preliminary nature of the tree inspection, any defects that may affect tree safety discovered by the contractor when carrying out the work recommendations should be reported to the supervising officer. Modification to the schedule of works may be required because of these reports. The contractor should be specifically instructed on this point.
3. **Implementation of works:** All tree works should be carried out to BS 3998 *Recommendations for Tree Work* as modified by more recent research. It is advisable to select a contractor from the local authority list and preferably one approved by the Arboricultural Association. Their Register of Contractors is available free from The Malthouse, Stroud Green, Standish, Stonehouse, Gloucestershire GL10 3DL; phone 01242 522152; website www.trees.org.uk.
4. **Statutory wildlife obligations:** The Wildlife and Countryside Act 1981 as amended by the Countryside and Rights of Way Act 2000 provides statutory protection to birds, bats and other species that inhabit trees. All tree work operations are covered by these provisions and advice from an ecologist must be obtained before undertaking any works that might constitute an offence.

Appendix 3 – Arboricultural Method Statement

1. **Introduction**

1.1 **Purpose of this Arboricultural Method Statement:** This Arboricultural Method Statement (AMS) has been produced in line with *BS 5837 2012: Trees in relation to design, demolition and construction-Recommendations* to aid the successful retention of the trees adjacent to the proposed development at land to rear of Regal House, Shripney Road, Bognor Regis, PO22 9NP.

1.2 **Scope of statement:** This document sets out the methodology for all proposed works that affect trees on and adjacent to the site. Compliance with this method statement will be a requirement of all relevant contracts associated with the development proposals. Copies of this document will be available on site for inspection.

1.3 **Relevant plan information:** For details of the trees to be retained and location and types of special protection methods, reference should be made to the tree protection plan WTP 2. A copy of which should be displayed prominently on site.

2. **Supervision and monitoring**

2.1 **Summary:** The project arboriculturist shall be responsible for monitoring/supervising tree protection and works set out in the attached arboricultural method statement (AMS) (If instructed formally by the developer/agent). The exact details for ongoing supervision during the construction works close to trees should be agreed at the pre-commencement meeting between the developer, tree officer and the project arboriculturist. Periodical monitoring to inspect the protective fencing and ensure the CEZs are intact with careful supervision of any works necessary close to trees. A record of site visits will be maintained for inspection on site and copies forwarded to the agent and planning authority when requested. The retention and services of a project arboriculturist for supervision and monitoring must be agreed prior to commencement of construction operations.

2.2 **Phase 1 (Establishment of tree protection measures):** A pre-commencement meeting must be held on site before any of the site clearance or construction works start. This must be attended by the contractor's site manager or agent, the arboricultural consultant and the tree officer. The methods of tree protection outlined in this report must be fully discussed at this meeting so that all aspects of their implementation and sequencing are made clear to all parties. Any clarifications or modifications must be recorded and circulated to all parties in writing. It may be appropriate for the tree surgery contractor to attend this meeting.

2.3 **Phase 2 (special precautions during construction):** All the retained trees will be protected from damage using barriers (fencing and ground protection). All these protective measures are shown on the plan WTP2 and explained within the examples provided in the tree protection guidance section below.

3. **Specific tree protection issues on this site**

3.1 **Tree protective guidance:** The specific tree protection requirements set out below are necessary to minimise harm to retained trees. These must be informed by the following tree protection guidance notes if tree harm is to be minimised.

3.2 **Protective fencing:** Temporary tree protective fencing is proposed for the retained trees. It will be to the BS5837:2012 section 6.2 recommendations i.e. braced preformed galvanised steel mesh panels (Heras' or similar). It will be installed prior to the commencement of any development related activity and retained at the locations shown on until construction is completed. It may only be moved or removed with consent from the LPA. Provided that the fencing is properly specified, installed and maintained, there is unlikely to be any significant adverse effects on the health or amenity value of these trees.

3.3 **Ground protection:** Temporary ground protection is proposed as an addition to the temporary fencing. It will be installed at the locations indicated on WTP2. This temporary ground protection will allow pedestrian access for construction and the movement of small amounts of building materials. The ground protection will also act as a base for scaffolding if such access is required.

3.4 **Storage areas outside the RPA:** Before construction begins on site, it is important to identify areas outside the RPA that minimise chemical pollution and damage from construction materials. On this site, materials and machinery are to be stored close to the front of the site, outside the RPAs.

3.5 **Services:** Any new service installation works are anticipated outside the RPAs of retained trees. However, if minor encroachment is required, the works must be undertaken following the guidance notes below.

4. **Important arboricultural considerations**

4.1 **Review of main requirements:** The following general responsibilities should be known to all parties involved with working on site to ensure that important retained trees on site are sufficiently protected:

4.1.1 Protective barriers must be regarded as sacrosanct and must only be moved under direct supervision of the LPA or named Arboriculturist to enable the undertaking of works within the RPA of the trees, as set out in this AMS, and approved in writing by the LPA. It is of paramount importance the fencing is repositioned correctly after any agreed operations.

4.1.2 No materials, chemicals, machinery or vehicles must be stored within the RPA as defined on the TPP and identified on site by protective fencing and above ground root protection.

4.1.3 Ground protection must not be lifted or removed without prior consultation with the LPA or named arboriculturist.

4.1.4 Damage caused to protective fencing or ground protection must be reported to the site supervisor and the named Arboriculturist to ensure appropriate repair.

4.1.5 Any damage to retained trees must be reported without delay to the site supervisor, the LPA and the named Arboriculturist so appropriate remedial work can take place without delay.

4.1.6 No fires will be lit on site.

4.1.7 Notice boards, telephone cables or any other signage or services are not to be attached to any part of retained trees.

Tree protection guidance

Objective: This guidance sets out the general principles that must be followed when working in Root Protection Areas (RPAs). Before work starts on site, the purpose of this guidance is to demonstrate to the LPA that tree protection issues have been properly considered and to provide a written record of how they will be implemented. Once the site works start, this guidance is specifically for the site personnel to help them understand what has been agreed and explain what is required to fully meet their obligations to protect trees. All personnel working in RPAs must be properly briefed about their responsibilities towards important trees based on this guidance.

RPA description: RPAs are the areas surrounding important trees where disturbance must be minimised if they are to be successfully retained. All RPAs close to the construction area are illustrated on the tree protection plans accompanying this advice. Damage to roots or degradation of the soil through compaction and/or excavation within RPAs is likely to cause serious damage. Any work operations within RPAs must be carried out with great care if trees are to be successfully retained.

Use of this guidance: Anyone working within an RPA must follow this guidance if important trees are to remain unharmed. They must take care to minimise excavation into existing soil levels and limit any fill or covering that may affect soil permeability.

This advice should always be read in conjunction with the tree protection plan (TPP) illustrating the areas where specific precautions are necessary. Each area where precautions are required is annotated on the plans as identified on their keys. All plans are illustrative and intended to be interpreted in the context of the site conditions when the work is started. All protective measures should be installed according to the prevailing site conditions and agreed as satisfactory by the appropriate supervising officer before any demolition or construction work starts.

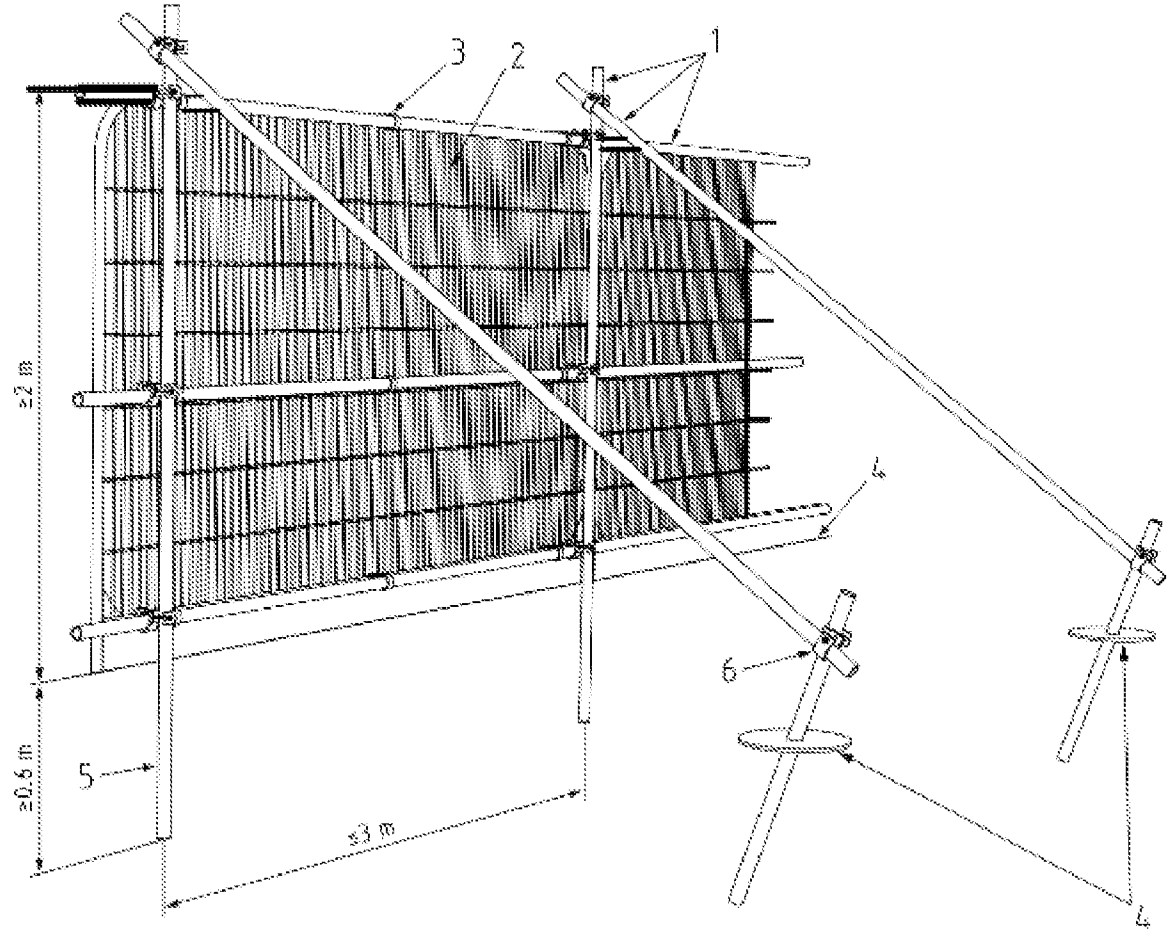
Preventing adverse impact to the RPA: Any part of the RPA beyond the agreed work area must be isolated from the work operations by protective barriers or ground protection to at least the minimum standard described in BS 5837 for the duration of the work. Any further precautions required to minimise harm to trees should be undertaken using the relevant tree protection guidance in the following pages.

Arboricultural supervision: Qualified arboricultural supervision is essential to minimise the risk of harm to trees. Ongoing work must be inspected regularly and, on completion, must be signed off by the arboriculturist to confirm compliance by the contractor and to sign of relevant Planning Conditions. In the context of this guidance, an appropriate supervising officer would normally be an arboriculturist.

Tree protective barriers

Installing Barriers: Tree Protective barriers must be fit for purpose, and once installed must not be moved without written consent from the Local Planning Authority (LPA). If it is absolutely necessary for any adjustments, they should be under direct supervision of the project Arboriculturist to maintain the Root Protection Area (RPA) of each tree. No materials, chemicals, machinery or vehicles must be stored within the protected area as defined on the Tree Protection Plan. On this site, all exposed rooting areas should be protected by barriers (while vulnerable to damage), in accordance with BS 5837 figures 2 and 3 below until there is no risk of damage from the development activity. This work should be subject to arboricultural supervision.

Extract from BS5837: 2012 Figure 2—Default specifications for tree protective barriers

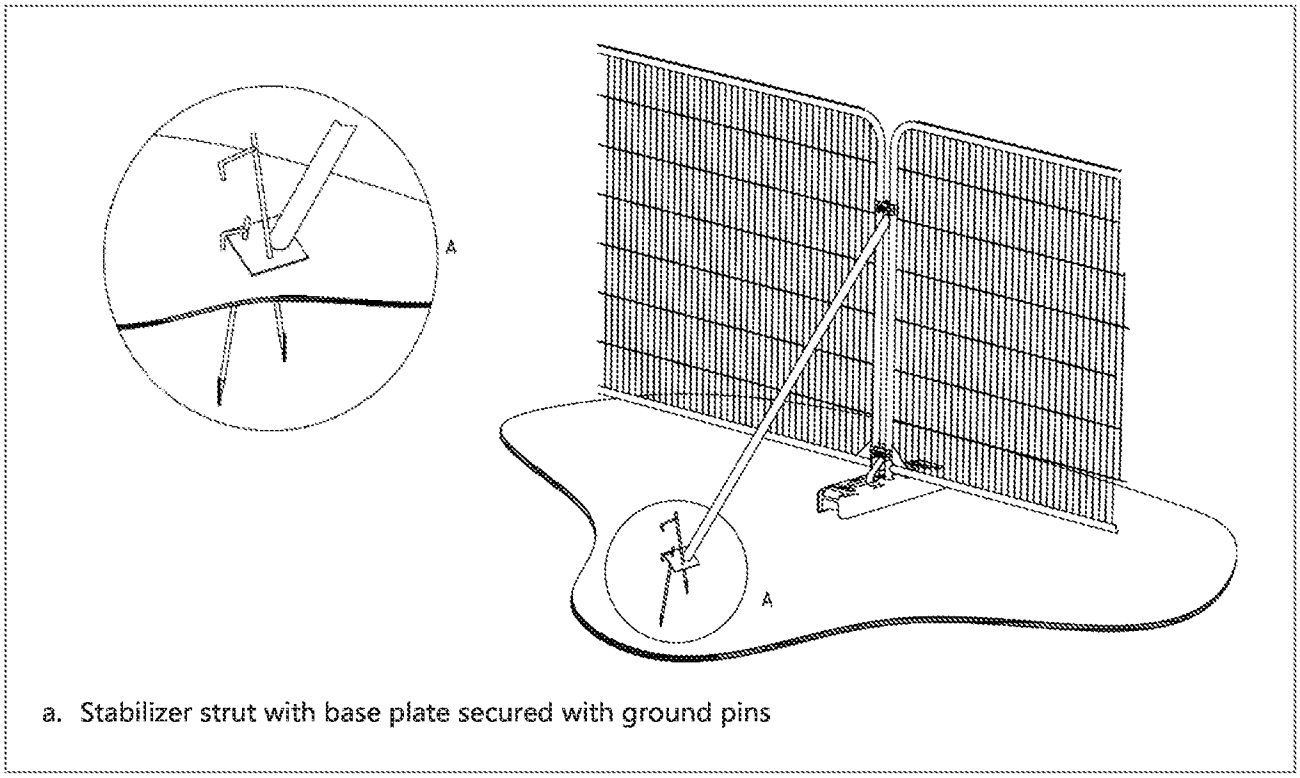


Key

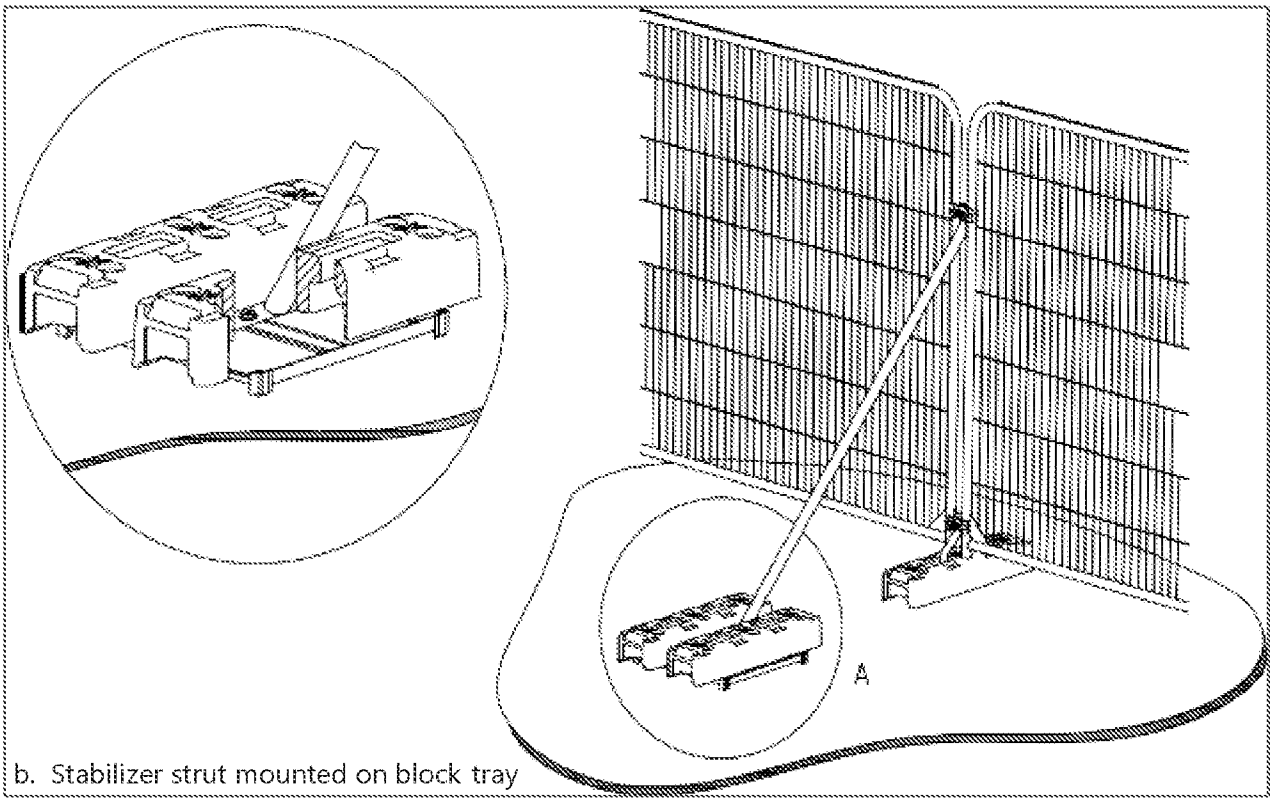
1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

Extract from BS5837: 2012 Figure 3: Examples of above-ground stabilizing systems

Examples of tailored protective barriers: A range of methods can be used to protect the trunks and underlying soil bit whatever the choice of method, the end result must be fit for purpose to prevent the protected area from being breached by the construction activities.



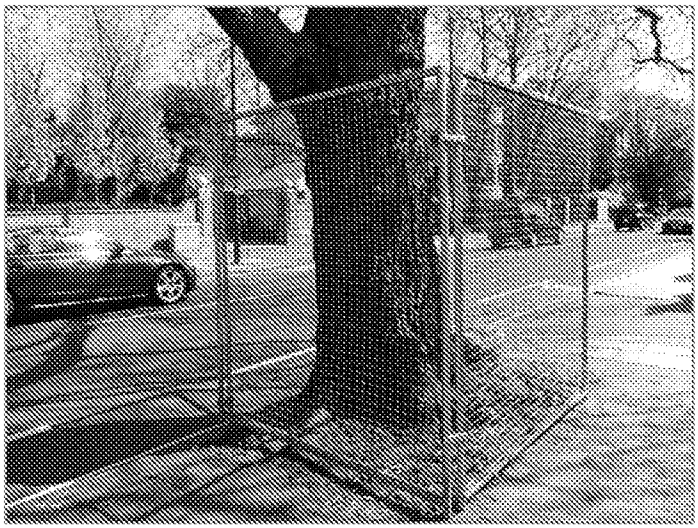
a. Stabilizer strut with base plate secured with ground pins



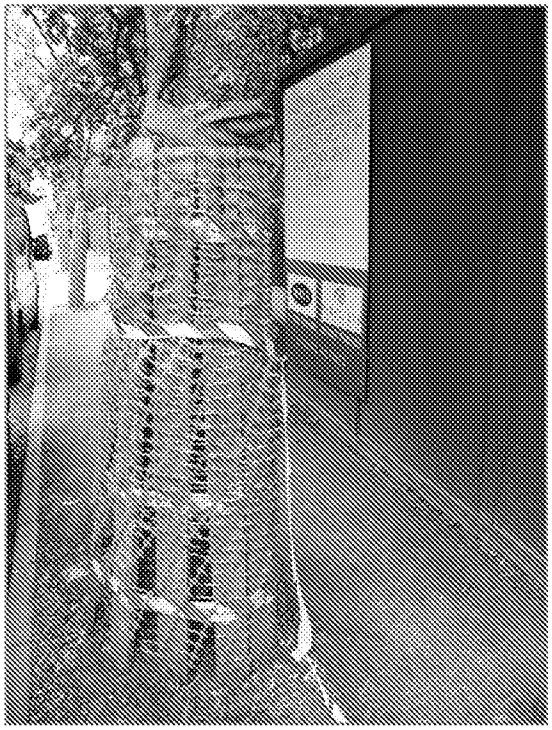
b. Stabilizer strut mounted on block tray

Picture 1: All barriers should be labelled to keep working activities outside the Construction Exclusion Zones (CEZs).

Picture 2: Scaffolding supports and board coverings erected around the trunks of trees can provide suitable protection against traffic turning into the site.



Picture 3: Temporary barriers are useful around individual trees where construction activities only occur during a short period.

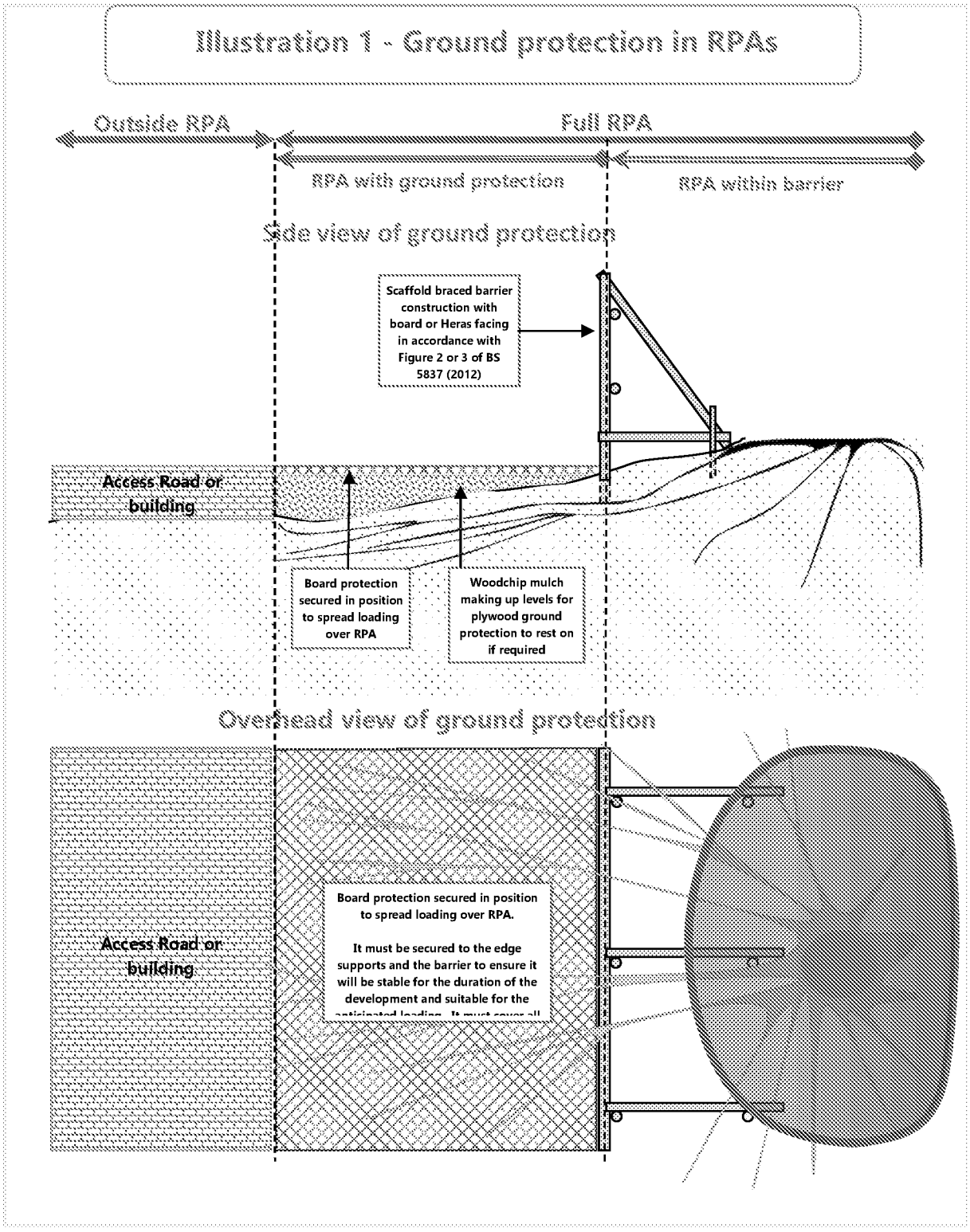


Pictures 4 & 5: Wooden boards carefully secured around the trunks can provide good protection where access is limited.

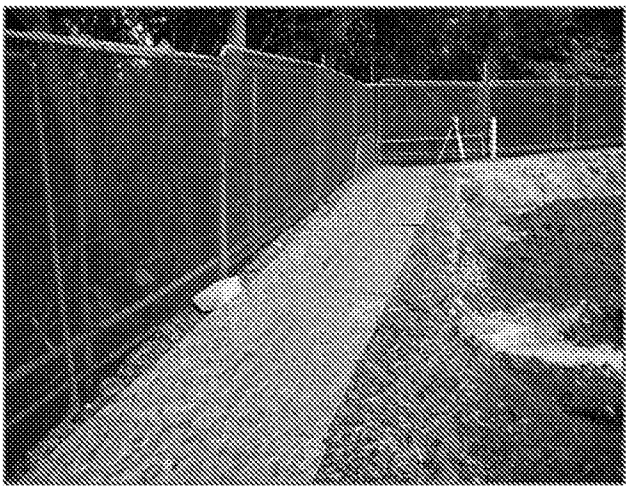
Picture 6: Where trees are off site, or public access is required through the work zone, boxing around the tree may be feasible.

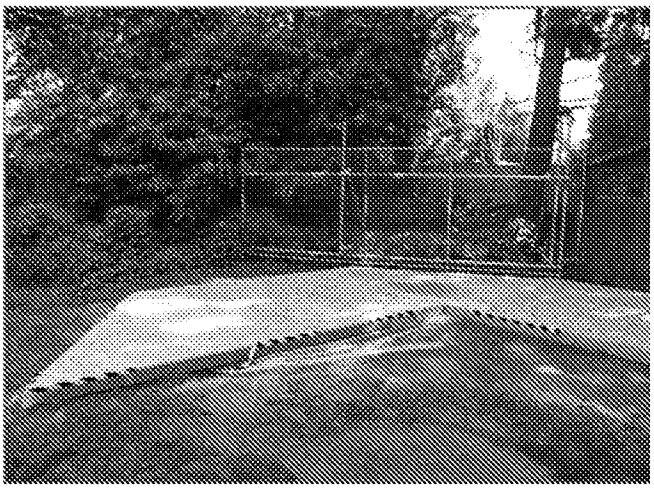
Ground protection

Protecting the ground: Where it is not practical to protect the trees using a vertical barrier, the soil can be protected with ground protection. This allows improved access next to trees, preventing damage to the roots outside the protection of the barrier. The following illustration and examples provide some guidance but ultimately any protection must be fit for purpose.

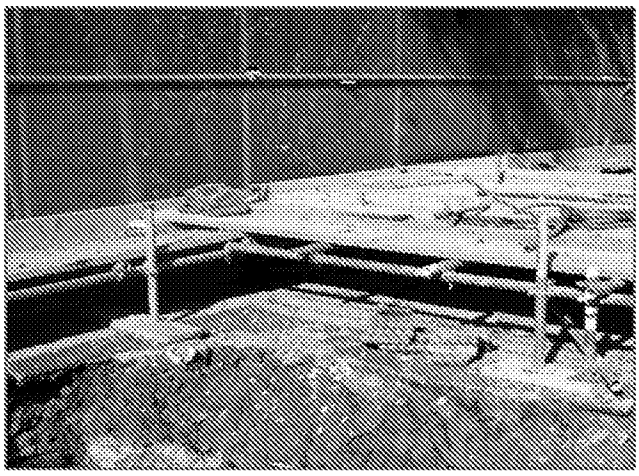


Examples of tailored ground protection: Many methods can be used, including the retention of existing surfacing or structures that already protect the soil, installing new protection, or a combination of both. Whatever the choice of method, the end result must be fit for purpose to protect the underlying soil (rooting environment).





Pictures 1 and 2: Mulch applied underneath plyboards can provide good protection for foot traffic. Where ground protection is required to fit around light structures or new extensions, this can be constructed using plyboard cut to size



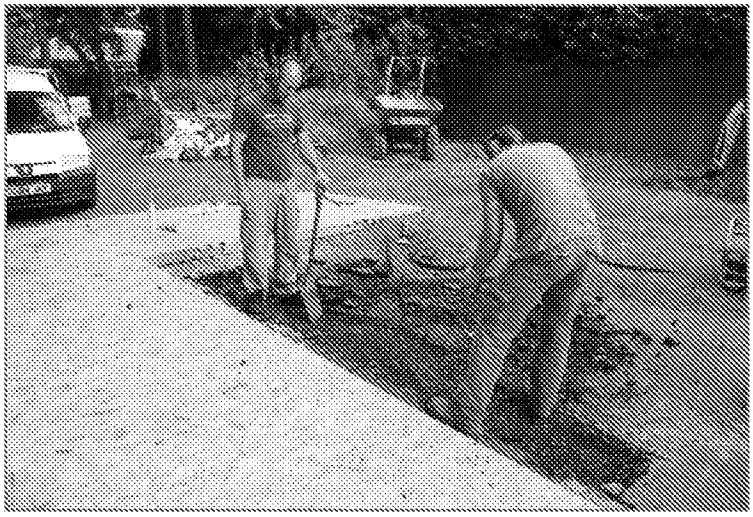
Pictures 3 and 4: Ground protection can be erected on scaffold platforms or with cellular confinement systems that can be easily lifted once the development has been completed

Hand digging operations

Excavations within RPAs: All excavation must be carried out carefully using hand tools, taking care not to damage the bark and wood of any roots. Specialist tools for removing soil around roots using compressed air may be an appropriate alternative to hand digging, if available. All soil removal must be undertaken with care to minimise the disturbance of roots beyond the immediate area of excavation. Where possible, fibrous roots should be retained or displaced temporarily beyond the excavation without damage.

Where excavations are required within RPAs, the advice below **must** be followed:

Advice for digging trenches

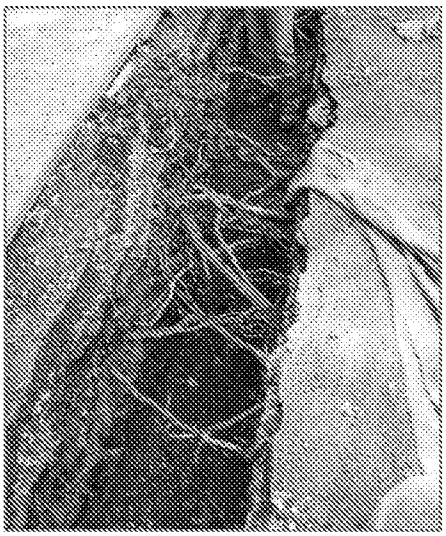


a. All work within RPAs must be carried out by hand under close and recorded arboricultural supervision.

b. Machines should not enter protective zones unless there is a suitable existing hard standing.

c. Excavation of open trenches by machine is unacceptable within the protective zone. Wherever possible, trenchless techniques should be used.

d. For trenchless installation of services, the pit excavations for starting and receiving machinery should be located outside the protective zone. The depth of run should be below 600mm. Techniques involving external mole lubrication with materials other than water should be avoided unless precautions are taken to ensure that there is no soil contamination within 600mm of the surface.



e. The broken trench technique combines hand dug sections of trench with trenchless techniques. The open trench is dug by hand with the same precautions as for continuous trenching described below. Open sections of trench should be kept as short as possible and only long enough to allow access for linking to the next section.

f. Continuous trenches should only be used where it is not possible to use either of the above techniques. The objective is to dig by hand and to retain as many roots as possible. Hand digging must be undertaken with great care to retain all roots greater than 25mm and to prevent damage to those retained.

g. Hand tools such as a fork should be used to loosen the soil and help locate any substantial roots. Once roots have been located, a trowel and brush should be used to clear the soil away from them without damaging the bark. Any roots that need to be removed should be cut cleanly with sharp saw or secateurs 100–200mm behind the final face of the excavation

h. Backfilling should be carried out carefully to avoid direct damage to roots and excessive compaction of the soil around them. Where the finished surface will be hard standing, the backfill material around roots should be a mixture of top soil and a granular fill such as sharp sand to reduce excessive compaction and to secure a local aerated zone. On sites away from hard standing, backfill only with excavated soil.

i. Exposed roots should remain protected from drying out and extremes of temperature by insulating covering such as sacking.

Advice for hand digging post holes

a. All excavation in RPAs must be carried out carefully using hand tools, taking care not to damage the bark and wood of any roots. Specialist tools for removing soil around roots using compressed air may be an appropriate alternative to hand digging, if available.

b. All soil removal must be undertaken with care to minimise the disturbance of roots beyond the immediate area of excavation. Where possible, flexible clumps of smaller roots, including fibrous roots, should be retained if they can be displaced temporarily or permanently beyond the excavation without damage.

c. If digging by hand, a fork should be used to loosen the soil and help locate any substantial roots. Once roots have been located, the trowel should be used to clear the soil away from them without damaging the bark.

d. Exposed roots to be removed should be cut cleanly with a sharp saw or secateurs 10–20cm behind the final face of the excavation.

e. Roots temporarily exposed must be protected from direct sunlight, drying out and extremes of temperature by appropriate covering such as hessian sacking or boards.

f. Roots greater than 2.5cm in diameter should be retained where possible. Roots 2.5–10cm in diameter should only be cut in exceptional circumstances. Roots greater than 10cm in diameter should only be cut after consultation with the appropriate supervisory officer.

g. The design should be sufficiently flexible to allow the hole-locations to be moved slightly if roots greater than 2.5cm in diameter are found in the preferred locations.

Services: Excavation to upgrade existing services or install new services in RPAs may damage retained trees and should only be chosen as a last resort. In the event that excavation emerges as the preferred option, the decision should be reviewed by the supervising officer before any work is carried out. If excavation is agreed, all digging should be done carefully and follow the guidance set out above.

Construction vehicles

Construction vehicles need space to work, so trees can be compromised once demolition or construction starts. To successfully retain trees during and after the development activity, it will be important to consider their proximity to working areas, storage of machinery and movement in, out and around the site. It is not just important to consider the impact to the ground and surrounding roots, but overhanging branches or stems often get overlooked. Working this out at the earliest stage possible is crucial to minimise harm to important trees.

Where vehicles/machinery are required close to trees or within RPAs, the advice below **must** be followed:

Minimising harm from construction vehicles/machinery

a. Where possible, fixed position cranes should be programmed to automatically avoid retained trees. If that is not possible, operatives should be trained to avoid retained trees as part of their regular tool box talks.

b. Access for any plant near trees needs to be restricted by protective barriers. However, where branches extend over into the working zones, operatives should be briefed to avoid them and be guided by a banksman where vision is obstructed.

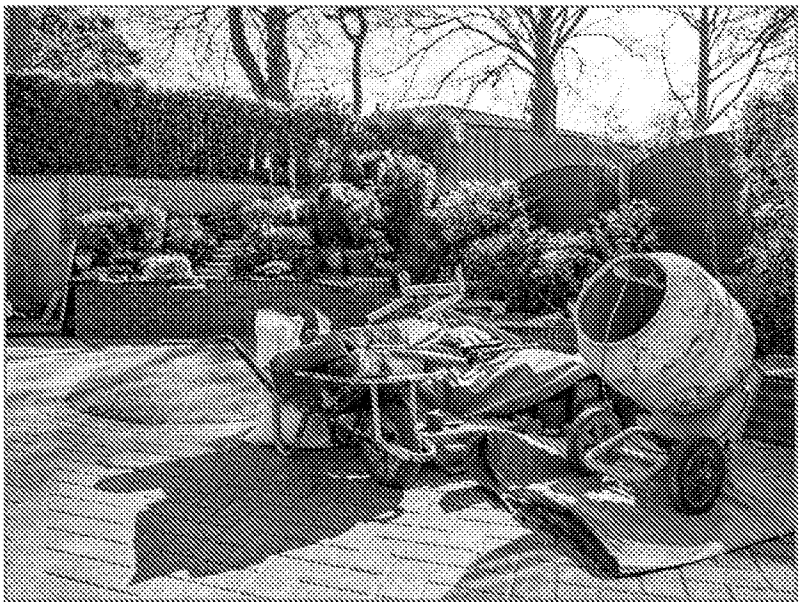
c. Loads can be lifted around site where they are close to trees but operatives should be prepared to avoid contact with tree crowns.

d. Care should be taken to avoid damaging retained trees during the installation and removal of large fixed site cranes.

e. Space for piling rigs should take account of both ground protection and facilitation pruning requirements to enable the rig to be supported and function properly. Where possible branches should be tied back to minimise pruning. Alternatively, small rigs can be used to keep works beneath the canopy.

Material storage and pollution control

Loose building materials, chemicals and other pollutants that can contaminate the soil must be stored in locations outside the RPAs. If space around the site is limited, materials must be ordered in smaller/less frequent amounts to minimise excessive build-up of unused building materials. Where liquids or powder/granule products are required, precautionary measures of bunding or sealed frameworks should be sufficient to prevent contamination and must be designed so they are fit for purpose. If spillage or leakage occurs, there should be immediate procedures put in place to reduce further risk to the surrounding RPAs. All contributing contaminants must be moved away from the affected RPAs in a way that minimises harm to tree roots and the surrounding soil.



The following points must be adhered to:

Minimising harm from storage of pollutants

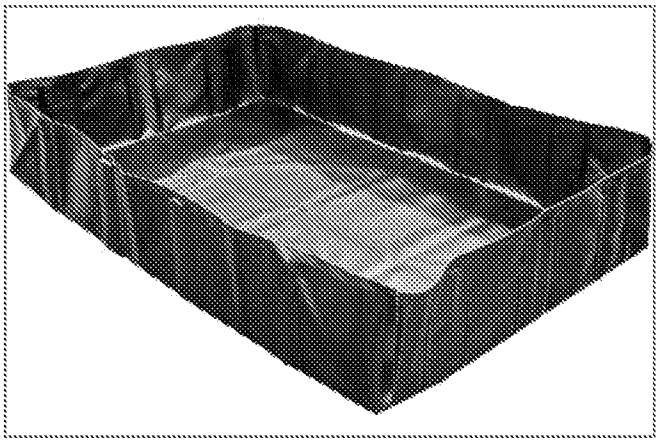
a. The storage of fuels or toxic materials must be kept outside RPAs

b. Emergency spillage kits must be available on site at all times to reduce the risk of accidents to the environment

c. Where space is limited, contaminants must be kept safe using tailored containment systems fit for purpose.

d. Cement washings must be contained to prevent leaching into the soil within RPAs

e. Concrete pouring must be done in a way that ensures all RPAs within influencing distance are adequately protected. Liners should also be used where possible to prevent contamination.



Landscaping works in RPAs: landscaping is usually the last stage of works and often the most important to minimise harm within RPAs. The re-profiling of existing soil levels and covering the soil surface with new plants or an organic covering (mulch). It does not include the installation of solid structures or compacted surfacing. Soft landscaping activity after construction can be extremely damaging to trees.

Minimising harm from landscaping works

a. No significant excavation or cultivation, especially by rotovators, should occur within RPAs.

b. Where new designs require levels to be increased to tie in with new structures or the removal of an existing structure has left a void below the surrounding ground level, good quality and relatively permeable top soil should be used for the fill.

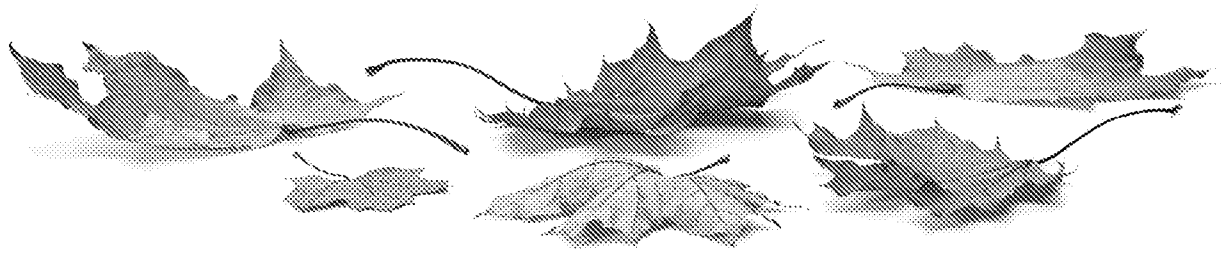
c. It should be firmed into place but not over compacted in preparation for turfing or careful shrub planting.

d. Ideally, all areas close to tree trunks should be kept at the original ground level and have a mulched finish rather than grass to reduce the risk of mowing damage.

e. All installations of light systems or other garden improvements that involve trenching works must be undertaken following the hand digging guidance above.

WADEY TREES

CHARTERED CONSULTANCY



Plum Tree Cottage, 50 Milton Lane, Durweston, Blandford, DT11 0QA

[redacted]

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