



THE ARBORICULTURAL
CONSULTANCY LTD

Arboricultural Report Addendum

Scarp House, Steyning

Report Reference Number: AA.SH.1005.V1

Version: One

Date: 12 June 2026

Site address:
Scarp House
Horsham Road
Steyning
BN44 3AA

The Arboricultural Consultancy LTD
3 Old Barn Way
Southwick
West Sussex
BN42 4NS

01273 252162
office@thearbconsultant.co.uk
www.thearboriculturalconsultancy.co.uk

Director- Benjamin Tidey. Company Registered in England and Wales.
Company Reg- 9562286

Contents

	Page
1.0 Introduction	5
2.0 Executive Summary	5
3.0 Arboricultural Impact	6
4.0 Arboricultural Protection Methods and Specifications	7
5.0 Responsibilities and Delegate Powers	12
6.0 Terms of Reference	12
7.0 Statutory Protection	13
8.0 Conclusion	13
Appendix	14

Surveyors Details			
Author(s) Name	Company	Position	Contact information
Ben Tidey FdSc arb, MArborA.	The Arboricultural Consultancy Ltd	Arboricultural Consultant	3 Old Barn Way Southwick West Sussex BN42 4NS Tel: 07736 385585 Email: ben@thearbconsultant.co.uk
Qualifications			
Foundation degree in Arboriculture (level 5), Lantra Professional Tree Inspection.			

Details:

Purpose of the report:

This addendum report is to be read in addition to the full Arboricultural Impact Assessment (AIA.SH.1005.V2) and Method Statement (AMS.SH.1005.V2), providing detail as to the impact and tree protection required for the drainage aspect to the northeast of the project.

Client: James Reader

Date: 12 June 2026

Report prepared by: Mr B Tidey FdSc (arb) of The Arboricultural Consultancy Ltd

Email: ben@thearbconsultant.co.uk

Address: 3 Old Barn Way, Southwick, West Sussex, BN42 4NS

Tel: 01273 252162/ 07736835585

Site Address:

Scarp House
Horsham Road
Steyning
BN44 3AA

Use of Report:

This report is to give information on tree stock and is to be used in conjunction with;

- Tree Constraints Plan Information and Tree Schedule - Land South of Sunningdale, Steyning - Ref TS.LSS.1005.V1
- Tree Constraints Plan – TCP.LSS.1005.V1
- Preliminary Impact Plan - Land South of Sunningdale - ref PIP.LSS.1005.V1
- Arboricultural Impact Assessment – AIA.SH.1005.V2
- Arboricultural Impact Plan – Ref AIP.SH.1005.V2
- Arboricultural Method Statement – Ref AMS.SH.1005.V2
- Tree Protection Plan – TPP.SH.1005.V2
- Tree Protection Plan [Pipeline Addendum] - TPP.SH[PL].1005.V1

Proposal:

The proposed development is for a new dwelling with associated new driveway, carparking, outbuildings and landscaping.

Use of Report:

This report is to be used at the development and operational stage, not all the information is applicable to every reader. The summary highlights which areas are more applicable to specific users of the report to help target the relevant information to those implementing the necessary instruction.

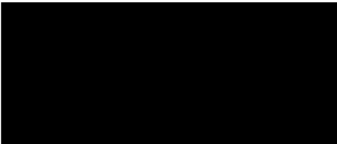
This report must not be processed using any editing software that may affect the integrity of this document, such as for redaction purposes.

Should this document be shared with a local authority then the client or planning consultant should check the original unedited document appears within the application.

Report Outline Information

All tree inspections, unless specified, have been undertaken from ground level and using non-invasive techniques. Comments contained within the report on the condition and risk associated with any tree relate to the condition of the tree at the date and time of survey. Please note that the condition of trees is subject to change. This change may occur but is not limited to biological and non-biological factors as well as mechanical/physical changes to conditions in the proximity of the tree. Trees should be inspected at intervals relative to identified site risks and in accordance with relevant HSE and Central Government guidance. The Arboricultural Consultancy can provide further information on this matter if required. Where tree surgery works have been identified these should only be undertaken after checks with the relevant authority have been made, it is necessary to ensure that works may lawfully be undertaken. Up to date checks should be made as to the possible protection status of trees/vegetation or land they are located within, these checks should cover, but are not limited to; Tree Preservation Orders (TPOs), Conservation Area, planning conditions, Areas of Outstanding Natural Beauty (AONBs), Ramsar, Special Protection Areas (SPA), Special Areas of Conservation (SAC), Sites of Special Scientific Interest (SSSI). Locations of designation can be found at <http://magic.defra.gov.uk/MagicMap.aspx> and further advice on designations can be found at <http://jncc.defra.gov.uk>. Further advice on TPOs, Conservation Areas or planning condition can be found with the local governing organisation. All works should be undertaken in accordance with the appropriate Duty of Care. This should include, for example, site specific risk assessments and due diligence inspections for the presence of protected species. Any comment relating to 3rd party trees has been made without full access to the tree(s). Should these trees have any impact on the site we would advise you to instruct us to contact the third party and undertake further inspection work.

This survey and report have been undertaken and produced by The Arboricultural Consultancy Ltd. All information within this report was correct at time of assessment.



Ben Tidey FdSc
Consultant Arboriculturist
Friday, 12 June 2026

Report Caveats:

The trees have been surveyed in accordance with the criteria set in the *BS 5837: Trees in Relation to Design, Demolition and Construction 2012*. A full hazard assessment of the trees (including assessment of decay or their defects and their implications) has not been undertaken as this is considered beyond the scope of this report. Any obvious hazards and defects have been identified where relevant in the Tree Survey Schedule and appropriate relating works have been recommended. Where relevant, trees not located within the legal property of the owner have been included and any works would be subject (where relevant by law, Statute and Common) to the owner's permission. Where appropriate further investigative works to be undertaken have been detailed and recommended. This may include climbing inspections, below ground exploratory investigations and the use of specialist decay detection equipment. Detailed ecological considerations are also beyond the scope of this report. UK and European Wildlife Legislation may affect the timing and even prohibit the enhancement of works and operations described in this report. Most of the information regarding wildlife can be found in the Wildlife and Countryside Act 1981 & updated 1994. This includes information of wild birds, bats, [REDACTED] and insects. Bats in particular are afforded particular protection and a specialist is required to determine if bats are present or may be affected when carrying out tree works. Further information is available from Natural England.

This document has been produced before planning consent is issued and before specific site orientated logistics can be confirmed. It is accepted that this document may need to be updated and more detailed information added throughout the planning and development process.

1.0 Introduction

- 1.1. The Arboricultural Consultancy have been appointed to provide advice on the arboricultural issues relating to the development of Scarp House, Steyning.
- 1.2. This report has been compiled using the information gathered during the tree assessment and constraints plan undertaken in August 2025 and November 2025. The trees were assessed to standards set out in *BS 5837:2012: Trees in relation to design, demolition and construction – Recommendations*.
- 1.3. This addendum is intended to document the arboricultural implications for the surface water drainage located to the northeast of the proposed development and shall only comment on this unless there is relevance to other aspects.
- 1.4. This addendum report is to be read in addition to the Arboricultural Impact Assessment (AIA.SH.1005.V2), Arboricultural Impact Plan (AIP.SH.1005.V2), Arboricultural Method Statement (AMS.SH.1005.V2), and Tree Protection Plan (TPP.SH.1005.V2).
- 1.5. Following the Flood Risk Assessment and Drainage Strategy being prepared it was deemed necessary to provide additional Arboricultural information. This has been used to produce a method of works that;
 - Is appropriate to the scale of the works
 - Has the minimal impact on the overall treescape
 - Is practical and can be undertaken
 - Is agreed by, and is suitable for all parties
 - Is compliant where necessary with *BS5837:2012 Trees in relation to design, demolition and construction – Recommendations*.

2.0 Executive Summary

- 2.1. The proposed development is for a new dwelling with associated new driveway, carparking, outbuildings and landscaping, with this addendum focussing on the surface water drainage located to the northeast of the proposed development and is outlined in *14007_1100_P3_Drainage Strategy Plan*.
- 2.2. The pipeline location has been planned to have the minimal possible impact to trees, because of the site topography and location of drainage ditches, the surface water is required to discharge into the drainage ditch at the northeastern corner of the site.
- 2.3. The impact to trees will be from the requirement to excavate for the pipeline within the RPAs and under the crowns of T19 (B category), T20 (A category), and TG3 (C category).
- 2.4. This impact requires that there will be a method of installation that ensures the healthy retention of trees. This will include:
 - Hand digging the trench for the pipeline
 - Retaining and protecting roots over 25mm or clumps of fibrous roots
 - Protecting exposed roots from damage and desiccation
 - Correctly back filling the trench

- Pruning tree crowns where there is a potential for damage from the trenching operations
- Installation of protective barrier fencing
- Installation of ground protection within RPAs
- Potential for removal and replacement of part of TG3 if required
- Ensuring adequate operational space under trees with facilitation pruning
- Protection of other trees from inadvertent damage from operational phase.

- 2.5. Methods to reduce or stop tree damage are applicable for this project and all parties involved should take responsibility to ensure there working method is appropriate.
- 2.6. With the implementation of protective barrier fencing, construction execution zones, ground protection and modified surfacing the tree impact to trees from the project can be greatly reduced. This added to the planting and establishment of replacement trees offers the site an opportunity to enhance the local landscape.

3.0 Arboricultural Impact

- 3.1. There will be an impact to a single tree group and two individual trees, as well as further trees being in proximity to the development area but outside of RPAs.
- 3.2. A summary of the affected trees for the proposed pipeline aspect of the development is detailed in the table below:

Impact	Reason	A	B	C	U
Trees to be removed	To facilitate the development or due to their condition (U cat)	None	None	TG3 (part)	None
Retained trees to be pruned	To address identified defects/ facilitate construction	T20	T19	TG3 (part)	None
Conflicts with tree RPAs	Incursion of the RPA of trees to be retained	T20	T19	TG3	None

- 3.3. There is a potential need to remove the eastern part of TG3, this is to minimise the impact on higher quality adjacent trees, this loss will be compensated for with replacement tree planting on completion of this aspect of the project.
- 3.4. Trees T19 (B category), and T20 (A category), have a relatively high crown (recorded at over 3m) therefore there is unlikely to be a requirement for heavy branch pruning or removal. However there may be a requirement to remove smaller parts that may get damage and impede operations therefore branch pruning may be required.
- 3.5. There will be a requirement to protect the above and below tree parts for further trees that are adjacent to the pipe location, the project has been designed to for the pipe fall outside of RPAs to minimise impact, this includes the location of the chambers. These trees that are

adjacent in proximity are T20, T22, T23 and the northern part of TG4, these can easily be protect with protective barrier fencing that will allow operational space.

- 3.6. Where the pipeline runs through the RPAs of TG3, T19, and T20 there will be a need for protection of these trees, this will include, barrier fencing, ground protection, and a modified methods of excavation that minimise damage to roots.

4.0 Arboricultural Protection Methods and Specifications

- 4.1. The below tables outline the criteria that is required to achieve suitable tree protection.

4.2. Tree Protection Plan

Table 1 - Tree protection plan criteria

SCOPE OF WORKS	CRITERIA
Tree Protection Plan	- Includes details and location of the tree protection fencing of the Root Protection Areas (RPA) to define the Construction Exclusion Zones (CEZ) - To indicate areas of 'hand-dig under supervision' within RPAs - To show the location of temporary ground protection where required - To show what trees/hedging is to be removed - To indicate what trees will most likely need pruning - A copy of the tree protection specifications are indicated on the Tree Protection Plan.

- 4.2.1. This can be found within document, Tree Protection Plan [Pipeline Addendum] - TPP.SH[PL].1005.V1. This will provide a plan with locations of specific protection requirements.

4.3. Protective Fencing

Table 2 - Protective fencing criteria

SCOPE OF WORKS	CRITERIA
Protective fencing	- Location of fencing shall be as detailed in the Tree Protection Plan - <i>Tree Protection Plan [Pipeline Addendum] - TPP.SH[PL].1005.V1</i> - The warning signs (as detailed within this report Appendix should be fixed at 6m intervals to raise awareness of the fencing and its desired function - Protective fencing must be in place prior to any site activities, it is recommended that this fencing is installed at the time site hoarding is erected - To be effective the tree protective fencing must remain in place for the duration of the development - Protective fencing for all trees shall consist of Heras style fencing panels installed as recommended in the <i>BS5837:2012</i> - Full specification for fencing to be found in Appendix.

- 4.3.1. Tree protection shall fully protect the tree crowns and RPA of retained trees, if any development operations are not possible because of tree protection, then the project arboriculturalist shall be contacted and a suitable solution found.

- 4.3.2. Protective barrier fencing along the eastern boundary consisting of temporary full height panels pinned into place with 400mm wooden “T” stakes driven into the ground, this semi permanent approach is deemed adequate given the scale of this aspect of the project.
- 4.3.3. Fencing to form a corridor for operations within RPAs of TG3, T19, and T20, this is to be of low height temporary panels to fit under tree crowns, these will be braced and secured in place with 400mm wooden “T” stakes driven into the ground.
- 4.3.4. All fencing within this area to remain in situ, not tampered, and not moved or adjusted for the duration of the pipeline installation.

4.4. Site Inspection, Monitoring and Supervision

Table 3 - Site inspection, monitoring and supervision criteria

SCOPE OF WORKS	CRITERIA
Site Inspections and Supervision	• Arrange details of communication between the inspecting arboriculturist, and client / client appointed ground worker, demolition contractor etc. • Details, instructions and authority for inspections should be provided and retained on site at all times. • To ensure that the construction process is undertaken with minimal disturbance to the retained tree stock, we recommend that the experienced arboricultural consultant from The Arboricultural Consultancy Ltd is appointed to undertake regular inspections of the site according to a site inspection / supervision schedule below. • During the site visit any changes to the proposed works will be discussed, their impact assessed and recommendations for best practice will be outlined. After the visit a copy of a report should be sent to the Site Manager, Local Authority Tree Officer and Client. • Any damage or incidents regarding the retained trees should be reported to the consultant arboriculturist at The Arboricultural Consultancy Ltd. Any incidents requiring a planning variation will only be completed after prior approval and consultation with the LPA. • Where excavations are necessary within RPAs then this should be under the supervision of an arboricultural watching brief/ supervision. • Full list of proposed supervision/ inspections to be found in the Appendix.

- 4.4.1. A pre commencement meeting between the project arboriculturalist, project manager and client will be held after the installation of tree protective barriers and before any works commence. This will provide an opportunity to ensure the correct location of tree protection and to discuss any potential issues with site logistics.
- 4.4.2. The excavation works within the RPAs will be undertaken under direct arboricultural supervision.
- 4.4.3. At completion of the project the site shall have a final arboricultural inspection to report any damage and provide any required remediation advice.
- 4.4.4. Reports from site inspections/ supervisions will be provided, these should be shared with the LPA tree officer and kept on file.

4.5. Removal of Soft Landscaping Within or Close to the RPA of Retained Trees

Table 4 - Removal of soft landscaping within or close to retained trees criteria

SCOPE OF WORKS	CRITERIA
Removal of existing soft landscaping / weeds & vegetation from within retained tree RPA	- Remove the soft landscaping vegetation with hand held tools, working in small sections making the shallowest possible excavations. - Remove arisings away from within the tree RPA area immediately. - There may be shallow adventitious / feeding roots immediately below the surface of soft landscape surfacing, therefore great care should be taken. - Cover the area with a temporary covering of damp hessian sacking immediately to prevent desiccation of surface roots (As required if the ambient weather conditions are not damp / wet). - If any roots over 25mm are accidentally scuffed by the soft landscaping works, the advice of The Arboricultural Consultancy Arboricultural consultant. It is likely such small roots can be cleanly cut with a sharp hand saw or secateurs [in accordance with 7.2.3 of <i>BS5837:2012</i>]. - New topsoil may be required to replace that which is likely to be removed during removal of existing surface vegetation and to make up appropriate ground levels. The current ground levels, particularly around retained tree trunks, should not be raised by more than 100mm as this can lead to root and cambium necrosis if left for an extended period of time. The topsoil should be clean and screened and comply with <i>BS3882:2007</i>. - Any exposed soil surfaces remaining after landscaping in shrub borders etc. Should be mulched to a minimum depth of 200mm using bark certified to <i>BS EN 4790:1987</i> standard.

4.5.1. The area concerned is where the pipeline crosses the RPAs of TG3, T19, and T20. This area requires open trenching for the installation of the pipeline.

4.5.2. All operations within RPAs are to be undertaken by hand using hand tools or compressed air soil displacement (Air spade).



Table 5 - Excavation of service trenches if within the retained tree RPAs criteria

SCOPE OF WORKS	SEQUENCING OF WORKS
Excavation of service trenches if within the retained tree RPAs	- The line of the service trench should be marked out by the contractor as per the service location plan*. This should have been drawn up with due consultation with the project arboriculturist as to proximity to subject trees, likelihood of encountering roots etc. (It is suggested that if service routes are proposed close to trees, the precise location of roots should be identified by either the use of 'Tree Radar' and / or trial excavations by 'Air spade' ** by complete trench excavation or using trial pits). - The line of the service trench should be marked out with a line or temporary road spray paint. - Single trenches should be used where possible to include multiple services at varying depths according to standard industry regulations and in accordance with NJUG4. This will negate the need for multiple trenches in the same location. - Tree Protective fencing will need to be moved/installed temporarily - Temporary ground protection will need to be laid either side of the trench, within the RPA, of either thick plyboard, scaffold boards or ground guards laid on a on a compaction resistant layer (see ground protection below). - Carefully excavate the trench to the engineer standard industry specifications: keeping the dimensions as small as practicable, on the tree side line of the service trench line to a depth which reveals roots greater than 25mm diameter. The final excavations around exposed roots can then be carried out with hand held trowels or preferably an 'air spade', or ideally a combination of the two. The combination of the two methods would be best suited on this site as the air spade is a faster, less invasive method. However, due to the likely compacted soil conditions, the air spade may not be effective after 300mm in depth: - If no protected tree roots with a diameter greater than 25mm are found along this strip, normal techniques can be used. - If roots with a diameter between 0-25mm diameter are found, then they are to be pruned to a side root, or suitable point, with secateurs. - If a major root (25mm plus) is found, it is to be wrapped in hessian and hand dug around the roots and tunnel underneath using machinery (This may cause a confined space for which a Risk Assessment will need to be undertaken). - The remainder of the trench (outside of RPA) is to be dug with an excavator suitable for the task and the pipes laid, underneath any major roots that may be found. - The soil will be back filled to original level with toots having top soil or sharp stand around them, there must be no compaction of the soil within RPAs . - The boarding to be removed. - The tree protection fencing should be returned to its original location and secured as before or if all works in this area are completed then it may be removed. - The site supervision report is to be written and sent to the Council, via the client. <i>*Excavations for services and drainage should be able to be undertaken outside of retained tree RPA's.</i> <i>** See the Air Spading definition</i>

4.5.3. There is a requirement to excavate for the surface water drainage pipe within the RPAs of TG3, T19, and T20. This requires all excavation within RPAs is hand dug and is under the direct arboricultural supervision.

4.5.4. The excavation is circa 12m of the northern most aspect of the pipeline.

- 4.5.5. The excavation for this will be hand dug using hand tools, including compressed air soil displacement (Air spade) with machinery to remove the arising spoil away from the trees and subsequently to back fill. This machinery must not be used for excavation within RPAs and must be suitable for the ground protection that has been selected.

4.6. Ground Protection

Table 6 - Ground protection criteria

SCOPE OF WORKS	CRITERIA
Ground protection	- Ground protection is necessary where construction access is available over any part of any tree RPA - The ground protection is to reduce soil compaction that results in dysfunctional roots and a reduction of tree health - The ground protection shall be suitable for the machinery and/or plant that it is proposed to enter the area - It shall be installed before any machinery or plant may access the area, with trackways being made in a progressive manner only driving over the protected parts as the track lengthens - Full ground protection specification to be found in the Appendix.

- 4.6.1. There will be a requirement for ground protect for the area either side of the trenching within the RPAs of TG3, T19, and T20.
- 4.6.2. The ground protection shall cover all areas that are to be accessed and be suitable to the type of usage.
- 4.6.3. The area of the trench will likely need mechanical assistance to remove the hand dug arisings/spoil from the area, this shall be undertaken using light weight equipment that does not exceed 2 tonne, with the smallest practical machinery being used.
- 4.6.4. The ground protection must cover all areas that are to be accessed within RPAs and will have an opening for the hand excavation to take place.
- 4.6.5. The ground protection should consist of interlinked ground protection boards such as tough mats placed on a 150mm layer of wood chip that is placed on a geotextile membrane, further specifications for alternative loading can be found in the [Appendix](#).

4.7. Tree Pruning

Table 7 - Tree pruning criteria

SCOPE OF WORKS	CRITERIA
Tree Pruning	- Tree work shall be undertaken to <i>BS3998:2010 Tree work – Recommendations</i> - Work shall be undertaken by a qualified, competent, insured company - UK and European Wildlife Legislation may affect the timing and even prohibit the enhancement of works and operations described in this report. Most of the information regarding wildlife can be found in the Wildlife and Countryside Act 1981 & updated 1994. This includes information of wild birds, ba [REDACTED] and some insects.

- 4.7.1. There is a potential requirement to prune the crowns of TG3, T19, and T20 this will be for access for operations to install the pipeline.

4.7.2. There trees should be crown lifted to the required height to stop accidental damage from operations.

4.8. Tree Removal and Replacement Planting

4.8.1. There may be a requirement to remove part of TG3, this is depending on the exact location of stems and the pipeline, should this be required then the minimal removal possible should be undertaken to allow the required access.

4.8.2. On completion of the works and at the point of back filling a new hedging part should be planted to compensate for the loss.

4.9. Site Compound and Material Storage

4.9.1. The site compound(s) will be planned to provide adequate space for operations required and will be outside of all RPA and construction exclusion zones.

4.9.2. All storage of materials will be outside of RPA and construction exclusion zones and be located to prevent soil contamination within RPAs. And is planned to be withing the main development site of the scarp house compound

5.0 Responsibilities and Delegate Powers

- 5.1. The project management will be responsible for contacting the local planning authority or project arboriculturalist should any issue be raised relating to the trees effected by the development.
- 5.2. It will be the responsibility of the project manager to ensure that all planning conditions attached to the planning consent are adhered to and that an auditable regime in regards to tree protection is adopted on site.
- 5.3. The contracts manger will be responsible to the project arboriculturalist on all tree related matters, in the first instance where construction is halted for tree protection. Should there be no line of communication then the Local Authority tree officer will be contacted. In the absence of any advice or supervision, all work must cease until relevant permissions are gained.
- 5.4. If further pruning works are required at any time then the contracts manager will request permission from the Local Planning Authority through their project arboriculturalist and all works must be carried out to the relevant specification.
- 5.5. The contracts manger will ensure the project is sequenced is appropriately to ensure that no damage occurs to trees during any phase of the project, all protection measures will remain in position until completion of all construction work.
- 5.6. All tree protection measures will remain in position and will have regular monitoring by a responsible and designated person on site. An auditable system of management of tree protection measures must be made available for scrutiny by the Local Planning Authority should they request it.

6.0 Terms of Reference

6.1. Reference Documents:

BS5837:2012 *Trees in relation to design, demolition and construction – Recommendations*

BS3998:2010 *Tree work – Recommendations*

Tree Constraints Plan Information and Tree Schedule - Land South of Sunningdale, Steyning - Ref TS.LSS.1005.V1

Tree Constraints Plan – TCP.LSS.1005.V1

Preliminary Impact Plan - Land South of Sunningdale - ref PIP.LSS.1005.V1

Arboricultural Impact Assessment – AIA.SH.1005.V2

Arboricultural Impact Plan – Ref AIP.SH.1005.V2

Arboricultural Method Statement – Ref AMS.SH.1005.V2

Tree Protection Plan – TPP.SH.1005.V2

Tree Protection Plan [Pipeline Addendum] - TPP.SH[PL].1005.V1

6.2. Documents supplied by the client:

14007_1100_P3_Drainage Strategy Plan

7.0 Statutory Protection

- 7.1. A check for any statutory protection for trees included within this report was undertaken with Horsham District Council on the 26.08.2025 and confirmed that the site is not within a Conservation Area nor is any tree protected under a Tree Preservation Order.

8.0 Conclusion

- 8.1. The site layout and plans continue to considered the impact to the local tree population and have been designed to incorporate trees of higher value across the site to ensure their longevity.
- 8.2. Tree protection measures in this Arboricultural Addendum and the accompanying Tree Protection Plan (ref TPP.SH[PL].1005.V1, are deemed appropriate and will offer the best solution with minimal arboricultural impact.
- 8.3. Further arboricultural impact and protection methods can be found in the Arboricultural Impact Assessment (AIA.SH.1005.V2), Arboricultural Impact Plan (AIP.SH.1005.V2), Arboricultural Method Statement (AMS.SH.1005.V2), and Tree Protection Plan (TPP.SH.1005.V2).
- 8.4. The recommended protection and working methods should be adhered to by all persons at all times and if there is need to deviate from this specification then advice from the project arboriculturalist shall be sought and an amended method statement may need to be issued.
- 8.5. If all the above measures are undertaken then the necessary work at will have the minimal effect on the retained local treescape, and with the proposed tree planting there will be an enhanced tree cover as trees mature.

Appendix

	Page
Appendix 1 Arboricultural protection schedule	15
Appendix 2 Key terms and abbreviations	16
Appendix 3 Tree protection	17
Appendix 4 Working in root protection areas	20
Appendix 5 Temporary ground protection	23
Appendix 6 Signage	25
Appendix 7 Monitoring	27



Appendix 1: Arboricultural Protection Schedule

This protection schedule is in addition to the full schedule found in the full Arboricultural Method Statement – ref AMS.SH.1005.V2

Tree ID	Common Name/ Latin Name	Category/ Subcategory	Impact from the development	Mitigation required
T 18	Common ash/ <i>Fraxinus excelsior</i>	C / 2 Mainly landscape qualities	Outside of development area, no impact	No mitigation required
T 19	English oak / <i>Quercus robur</i>	B / 2 Mainly landscape qualities	- Surface water drain installation within RPA - Potential need for crown pruning - Access within RPA - Excavation within RPA	- Protective barrier fencing - Ground/soil protection - Facilitation pruning - Modified method of excavation - Arboricultural supervision
T 20	English oak / <i>Quercus robur</i>	A / 2 Mainly landscape qualities 1 Mainly arboricultural qualities 3 Mainly cultural values including conservation	- Surface water drain installation within RPA - Potential need for crown pruning - Access within RPA - Excavation within RPA	- Protective barrier fencing - Ground/soil protection - Facilitation pruning - Modified method of excavation - Arboricultural supervision
T 21	Common ash/ <i>Fraxinus excelsior</i>	U	Outside of development area, no impact	No mitigation required
T 22	English oak / <i>Quercus robur</i>	B / 2 Mainly landscape qualities	- Outside of development area - Adjacent to excavation for pipeline installation	Protective barrier fencing at RPA extent or maximum branch extent whatever greater
T 23	English oak / <i>Quercus robur</i>	B / 2 Mainly landscape qualities	- In proximity to development area. - Adjacent to excavation for pipeline installation	Protective barrier fencing at RPA extent or maximum branch extent whatever greater
T 24	English oak / <i>Quercus robur</i>	C / 2 Mainly landscape qualities	In proximity to development area.	Protective barrier fencing at RPA extent or maximum branch extent whatever greater
TG 2	Blackthorn/ <i>Prunus spinosa</i> , Beech/ <i>Fagus sylvatica</i> , Laurel/ <i>Laurus nobilis</i> , Ash / <i>Fraxinus excelsior</i>	C / 2 Mainly landscape qualities	Outside of development area, no impact	No mitigation required
TG 3	Leyland cypress / <i>Cupressus × leylandii</i>	C / 2 Mainly landscape qualities	- Surface water drain installation within RPA - Potential need to remove part of group - Potential need for crown pruning	- Protective barrier fencing - Ground/soil protection - Facilitation pruning - Modified method of excavation - Arboricultural supervision
TG 4	Common hawthorn / <i>Crataegus monogyna</i> , Hazel, Elder / <i>Sambucus nigra</i>	B / 2 Mainly landscape qualities 3 Mainly cultural values including conservation	- In proximity to development area. - Adjacent to excavation for pipeline installation	Protective barrier fencing at RPA extent or maximum branch extent whatever greater

= Measurements estimated due to inaccessible tree or tree part

T = Tree

TG = Group /Tree Group

Appendix 2: Key terms and abbreviations

Arboricultural Implication Assessment (AIA):

An assessment of the arboricultural impact of a development.

Arboricultural Method Statement (AMS):

Contains references to tree protection information.

Arboriculturalist:

Person who has relevant education and training, gained expertise in the field of trees.

British Standard 5837: 2012 Trees in Relation to Design, Demolition, and Construction - Recommendations (BS 5837):

British Standard document outlining best practice and guidelines for the impact of arboriculture on the construction industry.

British Standard 3998 2012 Tree Work Recommendations (BS 3998):

British Standard document outlining best practice for Tree Works.

Competent Person:

Person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task being approached.

Construction:

Site based operations with the potential to affect existing trees.

Construction Exclusion Zone:

Area based on the root protection area from which access is prohibited for the extent of the project.

Root Protection Area (RPA):

Layout design tool indicating the minimum area around a tree deemed sufficient to protect roots in order to maintain the trees health and viability.

Service(s):

Any above or belowground structure or apparatus required for utility provision e.g. drainage, gas supply, water, ground source heat pumps, soak-a-ways, CCTV, telecommunications.

Stem:

Principle above ground structural component(s) of a tree that supports the branches/crown.

Tree Protection Plan:

Scale drawing, informed by descriptive text where necessary, based upon the finalised proposals, showing the trees for retention and illustrating the tree and landscape protection measures.

Appendix 3: Tree Protection

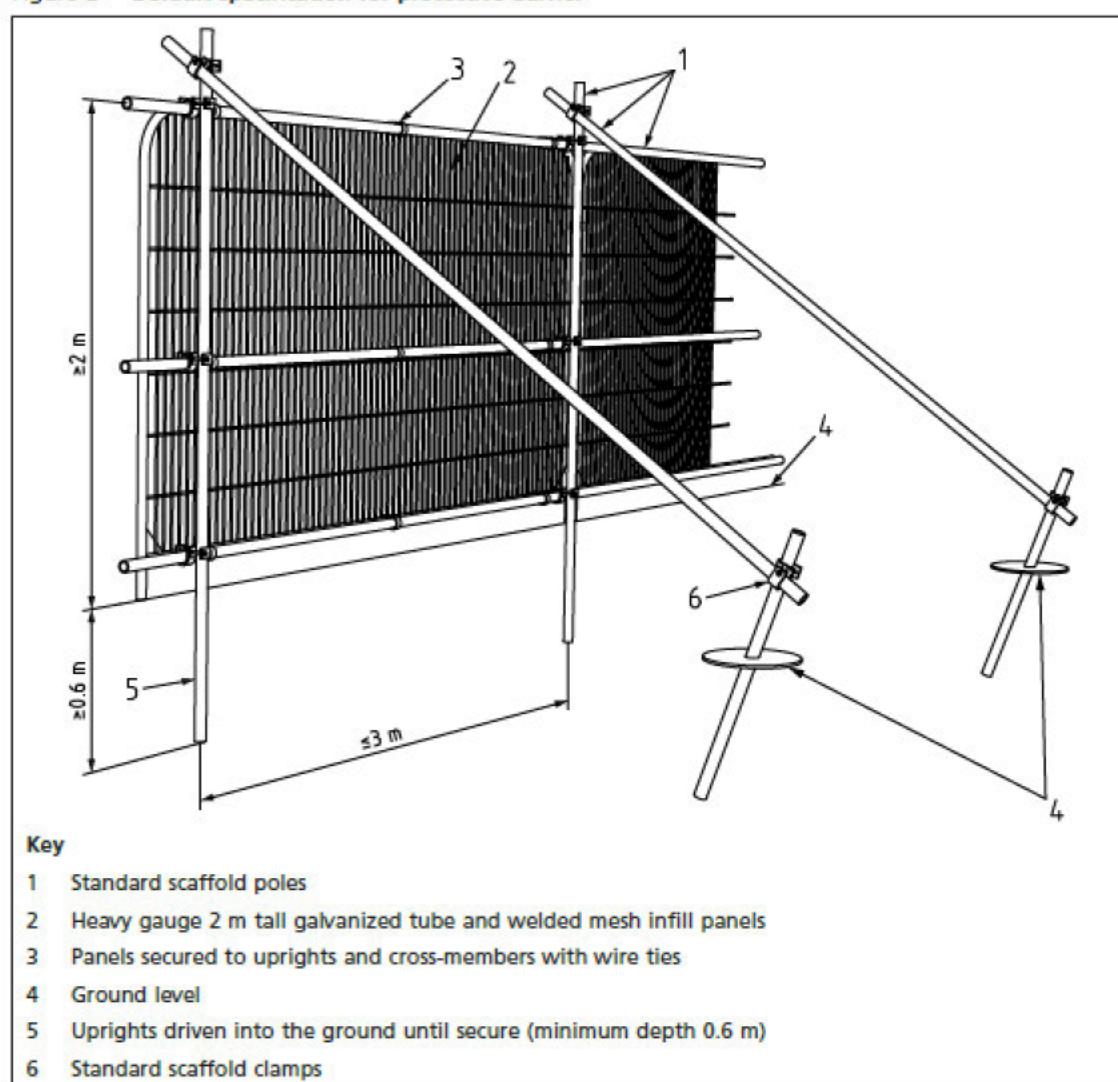
BARRIERS/FENCING

All barriers/fencing agreed for the development must be installed prior to any works starting on site and ideally in conjunction with the erection of the site security measures. All barriers/fencing must stay in place until the all works on site are finished or as agreed by the consultant arboriculturalist and/or planning authority.

Default Specification:

The default specification consists of a vertical and horizontal scaffold framework that is well braced to resist impacts from vehicles and construction site operations. The specification recommended in the current BS 5837 states the vertical tube should be spaced at maximum intervals of 3m and should be driven securely into the ground. Once in place weld mesh or similar (Heras panels) will need to be securely fixed to the scaffold framework.

Figure 2 Default specification for protective barrier

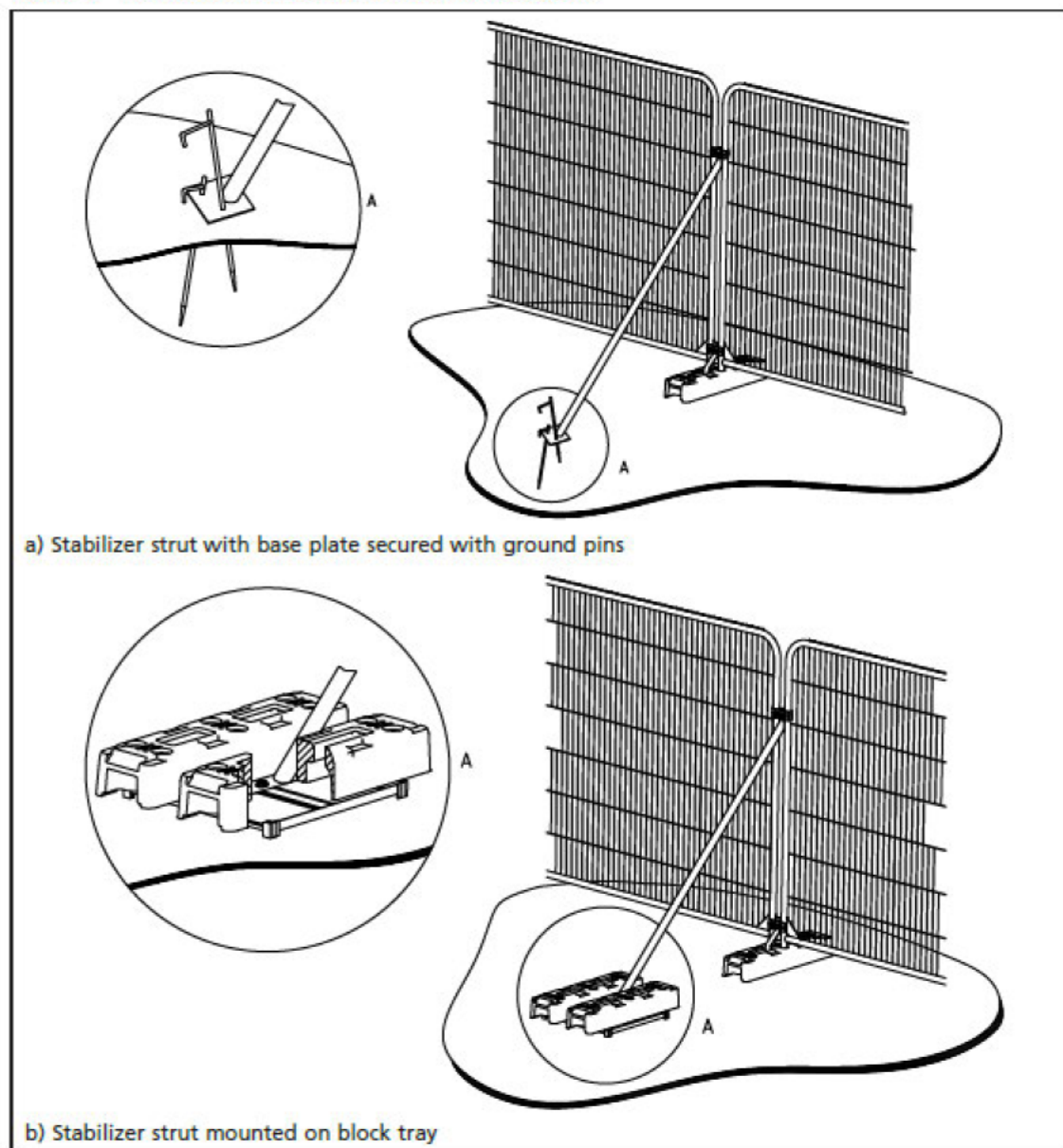


Alternative Specification:

Where the site circumstances and associated risk of damaging incursion into the RPA do not necessitate the default level of protection, an alternative

specification should be prepared by the project arboriculturist and, where relevant, agreed with the local planning authority. For example, 2 m tall welded mesh panels on rubber or concrete feet might provide an adequate level of protection from cars, vans, pedestrians and manually operated plant. In such cases, the fence panels should be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The distance between the fence couplers should be at least 1 m and should be uniform throughout the fence. The panels should be supported on the inner side by stabilizer struts, which should normally be attached to a base plate secured with ground pins (Figure 3a). Where the fencing is to be erected on retained hard surfacing or it is otherwise unfeasible to use ground pins, e.g. due to the presence of underground services, the stabilizer struts should be mounted on a block tray (Figure 3b).

Figure 3 Examples of above-ground stabilizing systems



Signage:

All tree protection fencing is required to have signs attached at 4-6m intervals. Below are examples of the required signage to be attached to the tree protection barrier.



Above: Three examples of tree protection fencing signage ranging from a simple sign (*left*) attached with zip ties to more in-depth signs (*middle & right*) explaining the limitations and legal protection status of the trees being protected.

Ground Protection

Ground protection is required during the development process to protect the retained trees.

Root Protection Areas from construction operations.

This can be where permanent working space is needed or temporary access is justified within the RPA, which would involve setting back the tree protection barrier. Where possible existing hard surfaces within RPAs need to be utilised or retained for ground protection rather than being removed during demolition operations. Where tree protection barriers are set back from the perimeter of the RPA exclusion zone exposing unmade ground to construction damage, new temporary ground protection will be installed prior to construction starting. Below are some general specifications for ground protection based on the type and weight of traffic.

Pedestrian Access

For pedestrian traffic **ONLY** a single thickness of scaffold board (40mm) or wooden boarding is to be laid on a minimum of 100mm deep woodchip, which is laid upon a geotextile membrane.

Small Plant Up To 2 Tonne (2000kg)

For small plant machinery with a gross weight of up to 2 tonne (2000kg), interlinking polyethylene or aluminium track way needs to be laid on a minimum of 150mm deep woodchip which is laid upon a geotextile membrane.

Regular Traffic and Plant Up To 3.5 Tonne (3500kg)

Where heavy traffic is expected from pedestrian to vehicular with a gross weight of up to 3.5tonne, interlinking aluminium or metal track way must be used over a minimum layer of 200mm deep woodchip, which is laid upon a geotextile membrane.

Appendix 4: Working in root protection areas

Prevention of detrimental impact to RPAs: In most instances the RPA will need to be completely isolated from construction and development operations using tree protection barriers and ground protection. This is the most reliable way to ensure the preservation of the RPA and retain it completely undisturbed. The RPAs of the trees to be retained have been shown diagrammatically on the Tree Protection Plan along with accurate location of any tree protection measures.

However some operations will require specific works to be carried out in the RPA and anyone entering the RPA must follow the guidelines below to ensure the minimal amount of disturbance is afforded at all times. Any operations in the RPA needs to accord to the principle that the tree and soil structure takes priority. This will help retain and preserve healthy, valuable trees in the landscape and development but also prevent costly and potentially dangerous situations from occurring during and after the works has been completed.

The two main instances where these guidelines for entering and working must be followed are:

1. Removal of existing surfaces/structures and replacing those with new surfaces, structures, landscaping.
2. Preparation and installation of new surfacing, structures, landscapes.

Most of the other operations can utilise some form of ground protection to prevent or reduce the impact on the RPA.

Excavations within the RPA and root retention: Any excavations carried out within the RPA must be done so by hand using spades, forks and trowels, taking care to limit the amount of damage caused to the outer bark and woody structure of the roots. The fork should be used to loosen the soil in the excavation area and help locate any substantial roots (25mm- 100mm diameter). A trowel can then be used to remove the soil from around the roots taking care as to not damage the bark.

Once the roots have been exposed, those that are to be removed (any roots up to 25mm in diameter) can be done using sharp secateurs or a handsaw. Any roots above 25mm in diameter, where possible, need to be retained and protected from drying out and temperature extremes by wrapping or covering them in a suitable material e.g. hessian, spare membrane material, plastic. This wrapping needs to be removed before any back filling takes place. Some roots over larger areas of excavation can be displaced where possible to bend round any new structures or pipework whilst remaining intact. Roots with a diameter of 25-100mm should only be cut in exceptional circumstances and after consultation. Roots above 100mm should only be cut after consultation with the appointed arboriculturalist. Alternatively using compressed to displace the soil is always preferable and more affective especially over larger areas or to remove soil quicker while keeping roots intact. This may be part of the specification and would be included within the Arboricultural Method Statement.

Arboricultural Supervision: All works being carried out within the RPA must be carried out with great care and be supervised by a qualified arboriculturalist to ensure that the contractors understand the need to minimize any detrimental impact on the retained root system. This is done through properly briefing before the work commences along with regular site inspections and signing the work off when completed.

Removal and Demolition of Structures and Surfaces: As with all operations carried out within the RPA exceptional care must be taken to ensure any detrimental impact on the roots and soil structure is kept to an absolute minimum. Where any structure is being demolished (above or below ground) within the RPA additional barriers is recommended to protect the remaining RPA, above ground stem and branch structures. Where there are no hard surfaces or they are due to be removed from within the RPA, plant machinery should operate from outside the RPA providing there is a long enough reach. Where this is unfeasible ground protection must be used to prevent soil compaction from plant machinery conducting the demolition operations. Where possible any suitable load bearing hard surface already existing within the RPA should be retained during demolition. This prevents any additional damage to the underlying soil structure by allowing the surface to support the plant machinery and falling material. Where the hard surface in the RPA is due to be removed, where possible it should remain in-situ for as long as possible. Before any demolition process takes place it should be determined whether any access facilitation pruning is required to provide clearance and prevent physical damage between the plant machinery and tree structures. In some situations working space can be provided by temporarily tying back tree branches. Both tying and pruning need to be specified by a qualified arboriculturalist and ideally follow the guidelines set out in BS 3998 2012 Tree Work Recommendations.

Debris to be removed from within the RPA must be done so across existing hard surface or temporary ground protection so as to prevent compaction of the soil structure. If possible the material can also be lifted out of the RPA using suitable machinery preferable with a long reach.

Where trees are standing adjacent to structures that need to be removed, the demolition should be undertaken inwards within the footprint of the existing building, often referred to as 'top down, pull back'. Where underground structures are present within RPAs and will become redundant it is preferable to leave the structures in situ rather than remove them, which could cause considerable root damage. Where hard surface is scheduled for removal within RPAs care must be taken to not disturb the root structure that could be present underneath. Hand held tools or carefully supervised machine work could be utilised to remove the surface. This should be working backwards away from the retained trees and not moving over the newly exposed ground.

New Structure Guidelines: All new structures being proposed in the RPA have the potential to cause damage to root structures and alter the ground conditions. The age and maturity of the trees will affect the viability and type of incursion into the RPA available. Younger trees are more robust and adaptable to changes in their environment where as mature and Veteran trees tolerate very little disturbance to their soil and root structures. When constructing inside RPAs the goal is to minimise the amount of soil disturbance/compaction and retain a good level of gaseous and water exchange.

Constructing above ground using pile and beam construction limits the amount of disturbance to the soil and root structure which reduces the adverse effect on physiological processes. Most solutions need to be well thought out and are a combined effort and communication of ideas between the engineer, architect and arboriculturalist.

Light Weight Structures e.g. Sheds, Small Storage: Small structures with relatively small foundations that spread load bearing can be constructed straight onto the surface without the need for any excavations. A certain amount of ground levelling is permitted but only to the top 50mm of the soil to fill in any undulations and provide a level surface. Anything above the 50mm will need to be raised up above the existing ground level to achieve the desired surface. Any ground works required must be carried out with great care so as not to damage retained tree roots. Small roots below 25mm can be severed with a sharp saw or secateurs. A membrane will be required between the ground and the bottom of the foundation to prevent leeching of potentially harmful chemicals materials e.g. cement into the soil. Frames can be constructed and fixed onto the ground using stakes from which the foundation can be produced. But there are recommendations for the amount of RPA that can be covered.

New permanent hard surfacing should not exceed 20% of any existing unsurfaced ground within the RPA.

Fencing, Posts, and Small Piers: Generally, the construction of fencing that doesn't require a strip or wall foundation can be installed with having very little impact on the soil and root structure. It is acceptable to dig small holes up to 300mm x 300mm for the installations of posts or piers so long as the digging is carried out carefully and by hand as directed in Appendix. 5.4 Or preferably by compressed air. Any roots up to 25mm in diameter may be severed using a sharp saw or secateurs, if possible the hole being dug could be widened or moved to enable retaining the root(s) whole. Any roots 25mm+ should be retained where possible but may be severed after consulting the appointed arborist; further guidelines have been explained above. Ideally holes should be dug as far away from the main stem as possible where larger diameter roots are less likely to be encountered and less damage will occur. When installing posts or piers in the RPA the smallest feasible hole possible must be used when excavating for the foundations of the posts to reduce the impact to the RPA.

Buildings, Walls, Bridges on New Foundations: Most conventional foundations are done by producing a strip of concrete dug into a trench in the ground. This is not acceptable practice in RPA's with the potential to cause large amounts of damage to root systems causing decline in the trees health, making the tree structurally unsound. Small diameter piles supporting beams or cast flooring are permitted within the RPA's as they will reduce the potential damage to root structure. But before any piling is carried out suitable ground protection must be put down to prevent soil compaction from the piling rig leaving gaps in the ground protection for the pile locations. Hand excavations need to be carried out in the location for each pile down to a depth of 700mm to establish whether there are any substantial roots in the pile location. If substantial roots are discovered (25mm+) the appointed arborist will make a decision whether the root can be severed or if the pile location has to be moved. The supporting beams connecting to the piles cannot be lower than the existing ground level resulting in the need for further excavations. The beams should be constructed off site allowing them to be lowered in to position without the need to be casted in the RPA.

Services: New services and service runs should where possible be sited outside the RPA of retained trees to prevent unnecessary damage to root structures. Sometimes there is the need to upgrade existing services, which requires excavation, this can cause extensive damage and render the trees structurally unsound. This should be a last resort and all decisions need to be in conjunction with the consulting arborist.

New Surfaces Guidelines: The installation of new surfaces within the RPA can be very damaging to the root structure and soil conditions. Excavations required for the laying of new sub bases and level grading could both cause extensive root damage to retained trees.

Excessive soil level alterations and new surfaces can change the condition of the soil and the environment the roots survive in, altering moisture content and the ability for gaseous exchange. Ideally any new surface needs to be permeable to allow moisture transfer and allow the continuation of gaseous exchange, be constructed above existing ground levels and load bearing where the load is spread evenly over the surface to help prevent compaction of the soil. Having these qualities helps enable structures and surfaces to be constructed in RPA while having continued successful retention of valuable trees. Younger trees are more adaptable to changes and construction of new surfaces within the RPA. They are able to cope with the pressures whereas mature, and veteran trees often severely decline. Mature and veteran trees should not have any new surfaces installed in their RPAs, as their ability to cope with the change is poor.

Providing Sufficient Grading for New Surfaces: Determining the depth of roots within any soil and RPA is difficult and can only be achieved by careful excavation of the topsoil. All surfaces proposed inside the RPA need to ideally be of a no dig construction which prohibits excavation, but this is often unfeasible as the ground is usually undulating. Limited ground movement and excavations are permitted if they are carried out with care to prevent any damage to the retained root systems. Ideally the ground should be raised up to provide a suitable level surface using a granular aggregate like angular stone or sharp sand. If done under supervision it is acceptable to allow the removal of the topsoil and turf to a depth of no more than 50mm, which normally doesn't, damage the roots. However if there are a large number of surface roots already showing prior to any soil removal there can be no excavation and the ground level must alternatively be raised. If during the grading of the soil roots at a diameter greater than 25mm are encountered the consultant arborist will need to make an evaluation as to whether the damage is preventable and or acceptable before proceeding. At no point can the graded surface be compacted to provide a finish as this will disrupt the soil structure and cause a damaging effect of the roots within it. The final level of the proposed surface must also be considered and discussed prior to starting any works to establish whether the proposal is practical and useable once completed.

Installing Base and Top Layers: Once a suitably level base has been created without damaging the retained roots, a load spreading construction is required to prevent the compaction of the soil structure beneath. Normally this can be achieved by installing a cellular confinement system that is filled with an angular no fines aggregate to help support and distribute the calculated load over a wider area and limiting soil compaction. This enables a finishing layer of permeable tarmac, block pavers, grasscrete, or gravel to be laid on top depending on the desired usage of the surface. Alternative options are to use preformed concrete slabs that can be laid directly onto the surface but they cannot be laid on top of any form of strip foundation which has a high potential for root damage.

Retention of Existing Surfaces: Where possible it is preferable to install new surfaces over those already existing, limiting the potential damage to any underlying root system. This can provide a suitable sub base without the need for excavation and without the need for special supervision and precautions. Care will only be needed if roots are lifting or protruding through the existing surface.

Appendix 5: Temporary ground protection

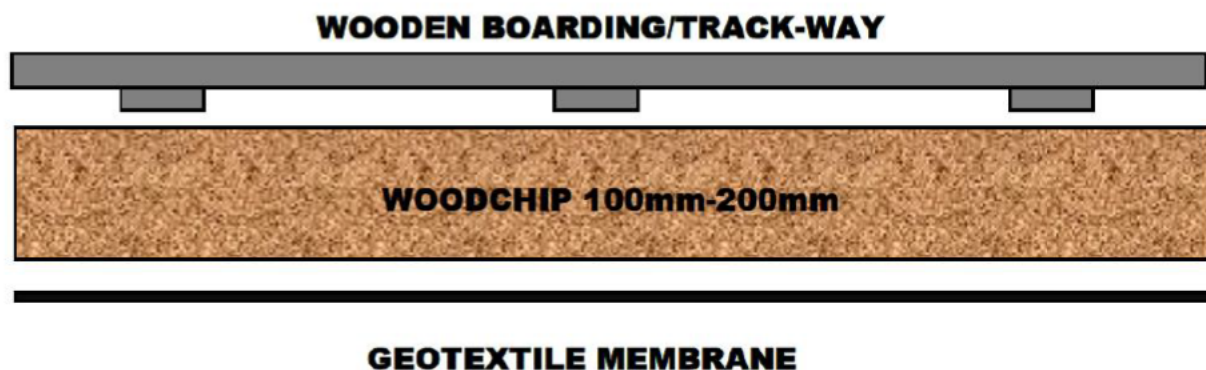
BS5837 recognizes that incursions in to the construction inclusion zones will be required at times during some developments.

The objective is to minimize soil compaction

Example 1 - *for pedestrian movements only, a single thickness of scaffold boards places either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g.) 100mm depth of woodchip), laid on to a geotextile membrane.*

Example 2 - *For pedestrian-operated plant up to a gross weight of 2 t, proprietary inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150mm depth of woodchip), laid onto a geotextile membrane;*

Example 3 - *For wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.*



The Ground Guards temporary road system can be used on construction sites to protect virgin ground from erosion and damage by construction vehicles. Ground-Guards are usually installed as a construction 'haul' roadway consisting of a parallel track of 2.4m x 1.2m panels with a 1.2m space in between. Where a temporary 'haul' roadway must pass near to trees, the following extra precautions must be taken in order to spread the loading applied to the track way. If Ground Guards are unavailable then a twin overlapping surface of 12mm plyboard may be used instead, this will be needed for both layers within the make up.

Edge rails of 200 x 50mm sawn timber or un-treated sleepers should be installed where the track way will pass over exposed retained tree RPA's. These should be installed on either side of the track way using either 50x50x500mm timber stakes of 500mm steel pins at 1.5m spacings.

A layer of geotextile membrane should then be laid over the area of ground to have the track way installed upon it.

A base layer of Ground Guards/twin sheets of 12mm ply should be laid over the top of the geotextile membrane at least three boards wide between the installed timber edging.

A minimum layer of at least 150mm deep coarse, preferably green wood chippings should be laid as a compressible layer over the top of the Ground Guards.

The second layer of Ground Guard/twin sheets of 12mm ply track way can then be laid over the top of the wood chippings.



Cellular confinement system for temporary site access (preferred method)- Use of Core TRP System (Core Tree Root Protection System).

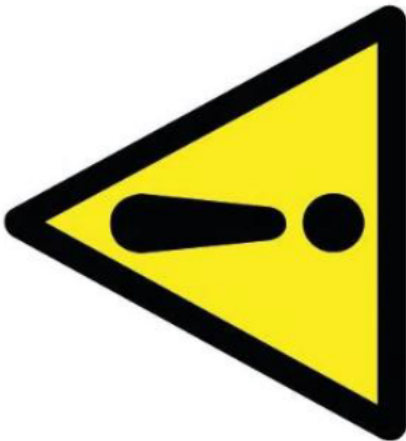
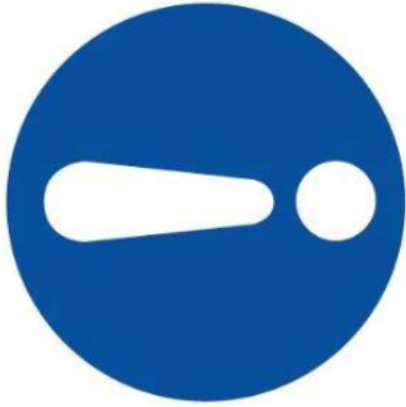
The use of a product such as Core TRP System is used for areas that require temporary ground protection and then later may be used as a subbase for a porous wearing course. This reduces the likelihood of soil damage during removal and reinstallation. The temporary ground solution "provides guaranteed protection for the roots of mature trees from pedestrian and vehicular traffic". *Further information available at - <https://www.corelp.co.uk/core-tree-root-protection/>*

The system shall be installed in accordance with the manufacturers guidelines.

The installation of this ground covering shall use a method that ensures that no plant or equipment comes in direct contact with the soil of RPA. This shall be undertaken by installing the trackway starting at the front of the property and laying small sections advancing along the completed ground covering as it is installed. This method will ensure that no operations need to be undertaken within unprotected RPAs, the trackway will go no closer than 500mm from any trunk buttress root.

The system shall be installed as per the manufacturers recommendations, and as outlined below and installed as per section *Installation of 'no-dig' special surfacing within or close to the RPA of retained trees* of this report but with a sacrificial temporary wearing course that will on completion of the project be removed and the final top surfacing installed.

Appendix 6: Signage



TREE PROTECTION AREA KEEP OUT!

**TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND ARE SUBJECT OF A
TREE PRESERVATION ORDER
(TOWN & COUNTRY PLANNING ACT 1990)**

CONTRAVENTION OF TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION

THE FOLLOWING MUST BE OBSERVED BY ALL PERSONS:-

THE PROTECTIVE FENCING MUST NOT BE REMOVED

NO PERSON SHALL ENTER THE PROTECTIVE AREA

NO MACHINE OR PLANT SHALL ENTER THE PROTECTION AREA

NO MATERIALS SHALL BE STORED IN THE PROTECTION AREA

NO SPOIL SHALL BE DEPOSITED IN THE PROTECTION AREA

NO EXCAVATION SHALL OCCUR IN THE PROTECTION AREA

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

Appendix 7: Monitoring

Visit	Date	Status
Pre-commencement Inspections Attend site to inspect type and location of tree protection and any temporary ground protection prior to development commencing and discuss any issues associated with demolition/ enabling works	TBC	Incomplete
Site Inspection Attend site to confirm fencing and ground protection remains in place.	TBC	Incomplete
Final Site Inspection Final site visit to confirm that no damage has been done to retained trees/ identify any remedial actions in the event damage has occurred. Assess any required tree surgery following construction	TBC	Incomplete
Watching brief / Arboricultural supervision Where any operations within RPA are undertaken	TBC	Incomplete



End of Report



The Arboricultural Consultancy is based in Sussex, covering the South East of England. We specialise in comprehensive tree management surveys, reports, and advice. Our expertise is invaluable in ensuring compliance with health and safety regulations, meeting development requirements, and fulfilling Tree Preservation Order (TPO) and Conservation Area obligations.

We take pride in offering professional and reliable services that prioritise the health and longevity of trees. Our team is dedicated to providing expert guidance and recommendations that align with your objectives and environmental stewardship.

With our extensive knowledge in arboricultural science, we deliver accurate and detailed assessments that inform sound decision-making. Trust us to be your trusted partner in responsible tree management.

Visit our website at www.thearboriculturalconsultancy.co.uk