

Arboricultural Impact and Mitigation

Statement for Development Proposals at:

Chemring Countermeasures
High Post
Salisbury
SP4 6AS

Proposal: Erection of warehouse and waste transfer station

Prepared for: Nationwide Engineering

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1. INTRODUCTION

- 1.1 **Instruction:** This report was instructed by Nationwide Engineering to prepare relevant information to accompany the planning submission for the erection of a new warehouse and waste transfer station at Chemring Countermeasures in High Post, Salisbury, SP4 6AS. The report details all trees that are associated with the siting of the proposed development, and their positions are illustrated on the separately provided tree protection plan attachment WTP1.
- 1.2 **Site visit:** The site visit was undertaken on 6th November 2025. 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.
- 1.3 **Statutory tree protection:** After investigating the LPA online mapping system, it was established that there are no tree preservation orders (TPOs) protecting the trees on or surrounding the site and it is not within a Conservation Area.
- 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 such as habitats which might fall within paragraph 180 (C) of the National Planning Policy Framework (NPPF). Paragraph 180 also emphasises the conservation and enhancement of biodiversity to protect the intrinsic character of the natural environment, especially the securing of measurable net gains - potentially a prelude to the coming implementation of biodiversity net gain credits. Therefore, calculations for habitat compensation (normally 10%) or habitat restoration in line with the DEFRA Biodiversity Metric 3.1 may be required. 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 recognised 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. For these reasons, the tree assessment advice only remains 18 months from the date that the trees were last inspected. No tree is ever 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 and no invasive diagnostic equipment was used to detect decay. If ivy covered, I probed and tapped the wood from ground level to establish if there were any obscured features that were relevant to the assessment. This did not extend to removing all the ivy or probing beyond what could be reached from ground level. Where trees have thick ivy, it would be impractical in every case to remove it or climb into the crown to have a closer look. However, where I suspect there are obvious visible significant outward health problems or structural defects visible under the ivy, I may recommend its removal for a further assessment.

- 1.4.4 **Soil assessment:** British Standard (BS) 5837:2012 Trees in relation to design, demolition and construction – Recommendations advocates that a soil assessment should be carried out to inform decisions relating to Root Protection Areas (RPAs), tree protection, new planting and foundation design. I have consulted the British Geological Survey (BGS) website and their Geology Viewer, and this advises that the bedrock geology for the site is (Seaford Chalk Formation - Chalk). I did not undertake any excavations on site to confirm this and a full geotechnical site investigation may need to be undertaken to provide a more in-depth level of information regarding soil type for the site.
- 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 in 2023 setting out the Governments planning policies for England and how these should be applied.
- 1.6 **Drawings provided:** Several plans and documents were provided as part of the current planning proposal. My drawing and report have been developed in context with the layout, reference 3557-1.11-E - Warehouse - Prop Site Plan, received by email on 18th December 2025 and 3557-2.11-D - Waste Facility - Prop Site Plan, received by email on 4th December 2025
- 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 within the grounds of the existing Chemring Countermeasures manufacturing site (Image 1). The areas proposed for the new warehouse and waste transfer station are close to several hard surfaced access roads and old storage buildings. There are several individual trees and larger tree groupings adjacent to the site which are not easily seen from the surrounding public viewpoints (Image 2). However, in the wider landscape they contribute well to the general character of the site and collectively provide useful shelter and boundary screening.



Image 1: The proposal site is approximately indicated by the red outline.



Image 2: Viewed from the southern side of the proposal site (indicated by orange arrow in Image 1 above)

- 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 (WTP1) 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:** BS5837:2012 paragraph 4.6.1 gives recommendations for the areas of root protection to be the equivalent to the area of a circle centred on the single stem tree with a radius of at least 12 times the trunk diameter. For trees with more than one stem, the recommended formulas were used to arrive at the combined stem diameter calculation. The calculated root protection area (RPA) for each tree was capped to 707m². 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 this notional RPA is that no significant disturbance should occur within it if the trees are to be successfully retained. As advocated in paragraph 4.6.3 of that document, where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon or equivalent area has been produced. Any modifications to the shape of the RPA have reflected our interpretation of a reasonable and likely root distribution.

3. **WORKING WITH THE DESIGN PROPOSAL**

General background

- 3.1 **Tree constraints as part of the design layout:** As recommended in section 5 of BS5837, the constraints posed by existing trees were identified to inform the site layout design. The collected information was used to provide relevant guidance to the architect so that when moderate/higher quality (category A and B) trees were recognised, their retention was given greater weight than the lower quality (category C and U) trees which have less importance to the site and its surroundings. This helps to avoid misplaced tree retentions and provide opportunities for new trees that may bring about future enhancements for the site. The below ground (RPAs) and above ground (canopy) constraints have been fully considered as part of the design process by the architect to arrive at the submitted design. Taking the overall conception and design issues into account, the identified constraints have properly informed the planning process to minimise any negative impact on the existing tree stock.



Retaining the most important trees 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 LPA Planning Policy taken account during the design stage:** The requirements of the British Standard 5837 and National Planning Policy Framework (NPPF) can be met using 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 55 and 56 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 WTP1.

4. **DEVELOPMENT INFLUENCE ON TREE COVER AND PROPOSED MITIGATION**

Specific issues on this site

- 4.1 **Tree protection:** Plan WTP1 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 their assessed categories in the respective colours as set out in paragraph 2.3 above. 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. In this case, there are no new structures or excavations required within RPAs, so no special precautions are necessary close to trees. 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 **U category trees:** Trees categorised as U are in such poor condition that they have been assessed as needing management irrespective of any development proposals. On this site, this relates to ten trees (T011, T020, T032, T033, T036, T041, T052, T054, T068 and T069). These trees do not directly impact on the proposal, and in some cases, they could be retained as useful habitat features within the wooded grouping. If any of these trees do need to be pruned or removed, it would not be appropriate to consider that as an impact arising from the construction activity.
- 4.3 **Tree works to facilitate access/working space:** No trees need to be removed to facilitate the proposal. However, small secondary and tertiary low branches may need to be pruned on trees T002, T003, T004 and T005 to facilitate larger construction vehicles which can be easily occluded by the trees without harming their health or appearance. No other pruning is anticipated at this stage, however, if this changes for any reason, it will need to be done in accordance with BS3998: 2010 '*Tree Work Recommendations*', without harming the health or appearance of nearby trees. I advise that these matters are considered at an early stage and agreed with the LPA prior to the work commencing.
- 4.4 **Site access, storage and movement of materials:** The RPAs of retained trees do not unduly affect construction access and building materials can be delivered to site using the



existing access roads and stored outside the fenced areas or on existing hard surfaces (see plan WTP1). It is entirely feasible to move materials to the working areas by hand or using small low ground-effect plant, with no significant harm to trees. Provided that protective measures are installed/retained correctly, there is unlikely to be any adverse effects on trees from construction traffic moving in and out of the site.

- 4.5 **Existing surfaces:** The existing surfacing adjacent to trees T002, T003, T004 and T005 can be retained and utilised for ground protection over the RPAs, and the boundary fence will part act as a barrier to ensure that there is no construction works close to the trunks of trees in the adjacent property. As a precaution, it is advisable to protect the trunks of these trees with protective fencing to minimise accidental damage during construction works.
- 4.6 **Drainage and other services:** The site is already serviced, and this establishes the principle of drainage runs, electricity cabling, soakaways and their maintenance and repair. It is not intended for there to be any major service upgrades, and the proposal is to connect into the existing services without the need to cause any disruption to RPAs, that could result in important trees being damaged. If this changes for any reason, I advise that these matters are considered at an early stage and agreed with the LPA prior to the work commencing.
- 4.7 **Post occupancy pressures on trees:** The location and character of the proposal has been achieved in consideration of all the site factors, including the presence of trees. In reference to BS5837:2012 recommendations paragraph 5.3.4 and its sub paragraphs, any issues relating to shading, privacy and screening, direct damage, future pressure for removal and seasonal nuisance have been factored into the design to minimise any post occupancy pressure on trees. In this case, the new proposal is non-residential, so it is unlikely that there will be additional pressures on trees from proximity, dominance or shading. In this context, they will not be significant in blocking sunlight, obstructing skylight or be unduly dominant in the future. The existing trees will continue to provide useful screening and it will be in the interests of the site owners to retain the boundary trees and any new planting to retain seclusion and privacy.



5. CONCLUSIONS

- 5.1 **Overall summary:** No trees will be lost because of this proposal and there is sufficient scope to protect the closest ones during development. If adequate precautions to protect them 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. Any additional information required for reassurance, can be provided by way of conditions attached to the planning permission. The scheme accords with the principles set out in the National Planning Policy Framework and it is technically compliant with BS5837:2012 and the way in which that Standard has been applied. Any deviations from its recommendations have been properly justified with appropriate actions. 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 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 arboriculturist 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:** The recommendation in BS5837:2012 paragraph 5.5.6 is that any construction information that may directly influence tree protection requirements should be provided at the earliest stages of development. 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:
- site construction access
 - the intensity and nature of the construction activity
 - contractors' car parking
 - phasing of construction works
 - the space needed for foundation excavations and construction works
 - the location and space needed for all temporary and permanent apparatus and service runs, including foul and surface water drains, land drains, soakaways, gas, oil, water, electricity, telephone, television, or other communication cables
 - all changes in ground level, including the location of retaining walls, steps and making adequate allowance for foundations of such walls and back-fillings



- working space for plant, scaffolding, and access during works
- space for site huts, temporary toilet facilities (including their drainage) and other temporary structures
- space for storing (whether temporary or long-term) materials, spoil and fuel and the mixing of cement and concrete
- the effects of slope on the movement of potentially harmful liquid spillages towards or into protected areas.

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. *Attention is drawn to the Construction (Design and Management) Regulations 2007 [5] and the Construction (Design and Management) Regulations (Northern Ireland) 2007 [6].*

7. RECOMMENDATIONS TO ENHANCE TREE COVER

- 7.1 **Future management of the trees:** Although many parts of the site contain high and moderate quality trees which should be retained where possible, they could benefit from management/enhancement measures to prolong their life and their benefits to the locality. Where trees are very close to areas of high usage, a high level of maintenance is essential to the extent that all dead wood and defects capable of causing injury or damage should be addressed. However, in the areas more distant from people and property where the risks are lower, the maintenance regime can be less rigorous to the benefit of wildlife habitat creation. The wooded area in the centre of the site makes a significant contribution to local character so its maintenance and enhancement should be the priority of management once all the safety requirements have been met. Finally, wildlife habitat should be considered where it does not conflict with the other objectives. Provision for wildlife can be achieved by avoiding sanitising the areas beyond the proposed gardens. There is no need to remove every fallen leaf and piece of dead wood to keep it all neat and tidy. Leaving dead stumps standing and fallen trunks/branches on the ground is not a high risk in areas of low access and provides a significant boost to local wildlife.
- 7.2 **New tree planting and enhancement landscaping opportunities:** Having considered the potential this site has to offer for new tree planting/landscaping opportunities, there is plenty of space in some of the unused parts of the site for significant tree and hedge planting that will improve the overall canopy cover and offer more future landscape enhancements to the site. If this is required, it would be appropriate for the precise detail to be agreed with the LPA through a planning condition.
- 7.3 **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 should 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.



- 7.4 **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 practice and aftercare.

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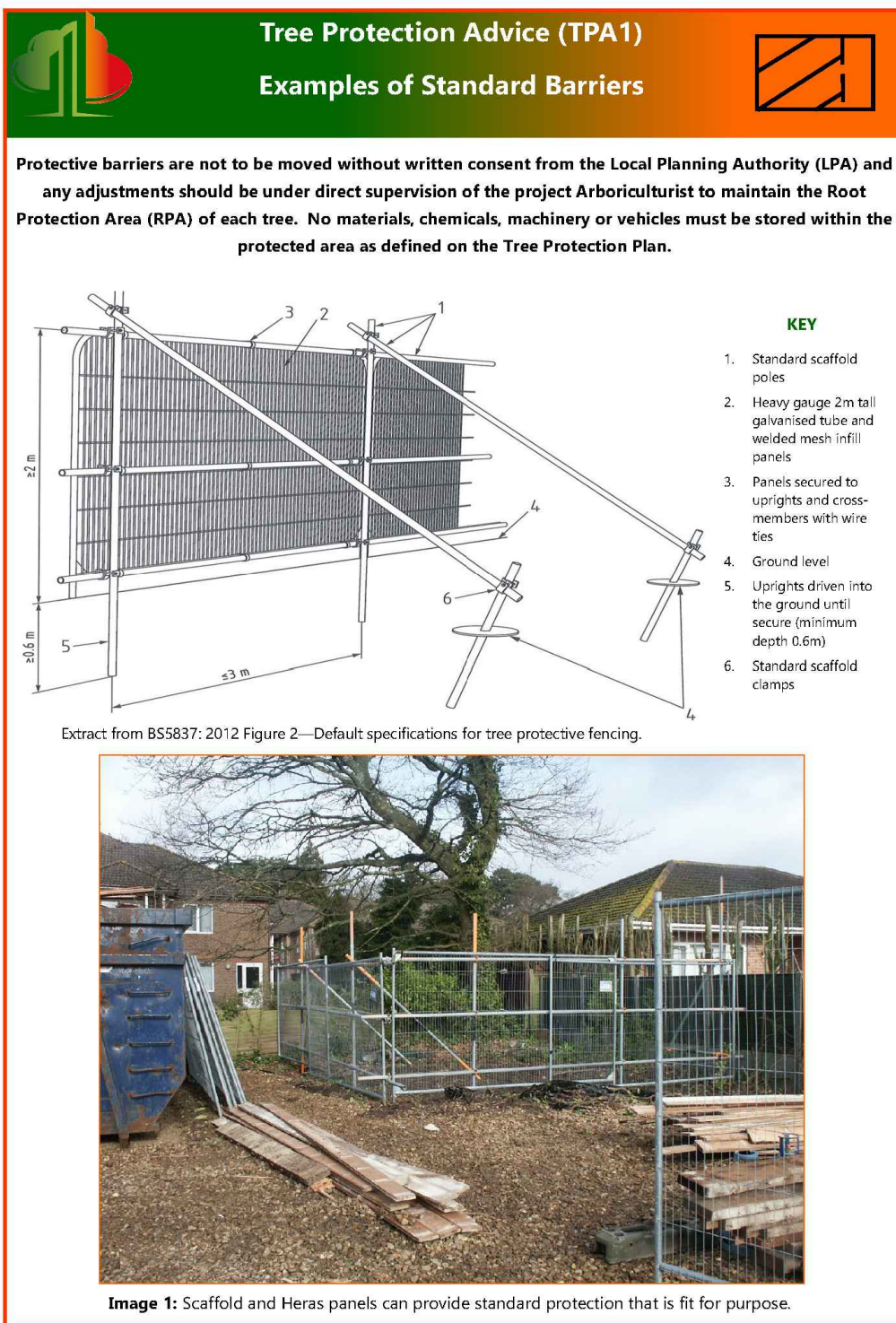
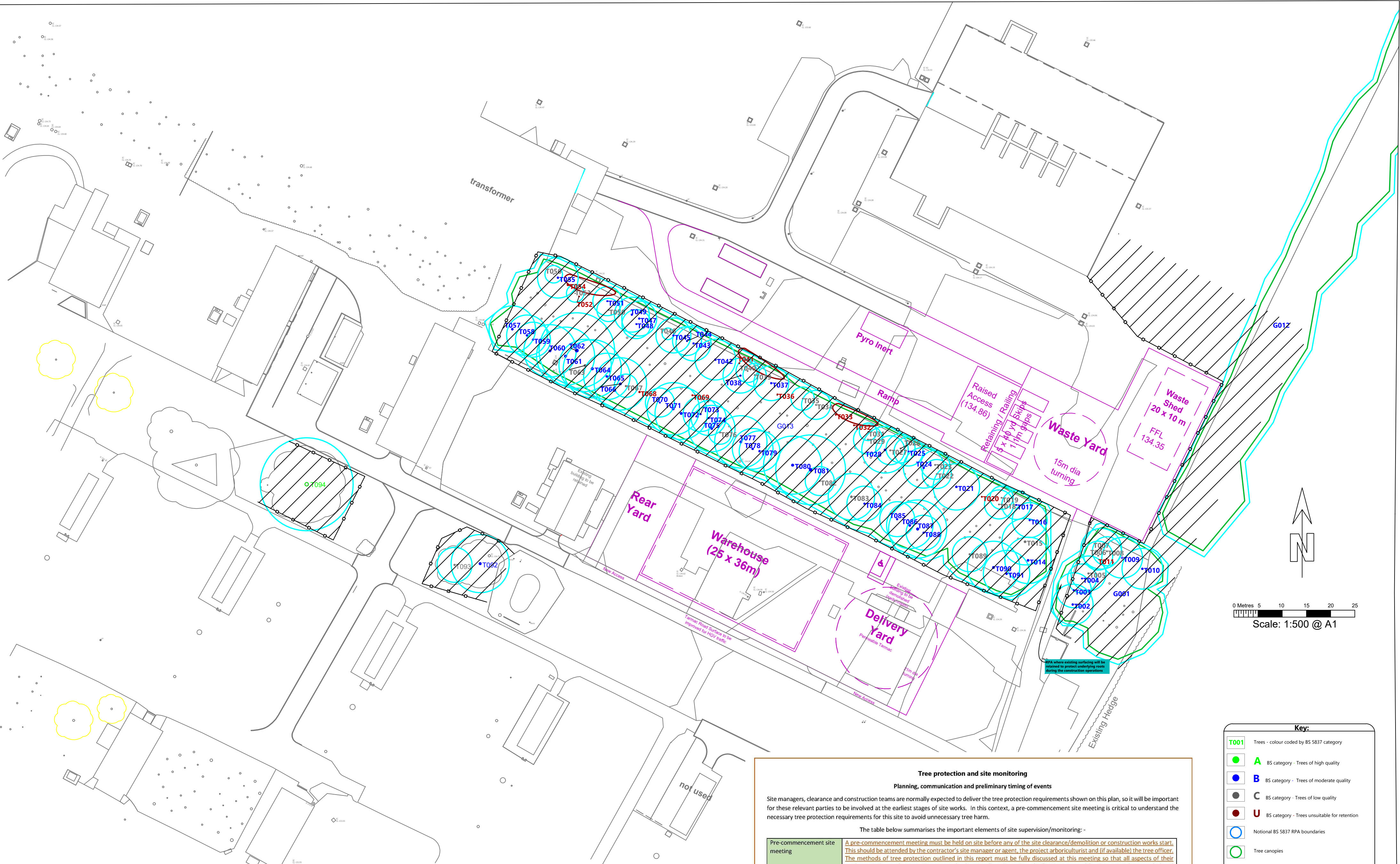
Appendices:

- 1 The tree protection plan WTP1
- 2 Data collection – Tree schedule & explanatory notes
- 3 Arboricultural Method Statement

Appendix 1 – The Tree Protection Plan: Illustrating tree protection and management proposals – WTP1

Content: 1 x A1 plan @ scale 1:500

Tree No.	Species	Height (m)	Stem diameter(s)	Retention Category	Tree No.	Species	Height (m)	Stem diameter(s)	Retention Category	Tree No.	Species	Height (m)	Stem diameter(s)	Retention Category
G001	Scots pine (<i>Pinus sylvestris</i>) Beech (<i>Fagus sp.</i>)	14	400	B1	T033	Scots pine (<i>Pinus sylvestris</i>)	14	250	U	T064	Scots pine (<i>Pinus sylvestris</i>)	18	500	B1
T002	Scots pine (<i>Pinus sylvestris</i>)	11	350	B1	T034	Scots pine (<i>Pinus sylvestris</i>)	10	250	C1	T065	Scots pine (<i>Pinus sylvestris</i>)	18	400	B1
T003	Scots pine (<i>Pinus sylvestris</i>)	14	300	B1	T035	Scots pine (<i>Pinus sylvestris</i>)	10	200	C1	T066	Scots pine (<i>Pinus sylvestris</i>)	18	450	B1
T004	Beech (<i>Fagus sp.</i>)	10	250	B1	T036	Scots pine (<i>Pinus sylvestris</i>)	14	250	U	T067	Scots pine (<i>Pinus sylvestris</i>)	9	200	C1
T005	Beech (<i>Fagus sp.</i>)	14	300	C1	T037	Scots pine (<i>Pinus sylvestris</i>)	15	300	B1	T068	Scots pine (<i>Pinus sylvestris</i>)	14	300	U
T006	Scots pine (<i>Pinus sylvestris</i>)	13	250	C1	T038	Scots pine (<i>Pinus sylvestris</i>)	15	300	B1	T069	Scots pine (<i>Pinus sylvestris</i>)	14	250	U
T007	Scots pine (<i>Pinus sylvestris</i>)	13	350	C1	T039	Scots pine (<i>Pinus sylvestris</i>)	12	200	C1	T070	Scots pine (<i>Pinus sylvestris</i>)	15	250	B1
T008	Scots pine (<i>Pinus sylvestris</i>)	14	250	C1	T040	Scots pine (<i>Pinus sylvestris</i>)	10	200	C1	T071	Scots pine (<i>Pinus sylvestris</i>)	15	450	B1
T009	Scots pine (<i>Pinus sylvestris</i>)	14	350	B1	T041	Scots pine (<i>Pinus sylvestris</i>)	14	250	U	T072	Scots pine (<i>Pinus sylvestris</i>)	15	450	B1
T010	Scots pine (<i>Pinus sylvestris</i>)	14	350	B1	T042	Scots pine (<i>Pinus sylvestris</i>)	15	350	B1	T073	Scots pine (<i>Pinus sylvestris</i>)	15	300	B1
T011	Scots pine (<i>Pinus sylvestris</i>)	14	200	U	T043	Scots pine (<i>Pinus sylvestris</i>)	15	300	B1	T074	Scots pine (<i>Pinus sylvestris</i>)	15	300	B1
G012	Ash (<i>Fraxinus sp.</i>) Scots pine (<i>Pinus sylvestris</i>) Lime (<i>Tilia sp.</i>) Cherry (<i>Prunus sp. Cherry</i>) Field maple (<i>Acer campestre</i>) Beech (<i>Fagus sp.</i>)	10	400	B1	T044	Scots pine (<i>Pinus sylvestris</i>)	15	250	B1	T075	Scots pine (<i>Pinus sylvestris</i>)	15	400	B1
G013	Scots pine (<i>Pinus sylvestris</i>) Beech (<i>Fagus sp.</i>)	14	400	B1	T045	Scots pine (<i>Pinus sylvestris</i>)	15	300	B1	T076	Scots pine (<i>Pinus sylvestris</i>)	9	200	C1
T014	Beech (<i>Fagus sp.</i>)	15	400	B1	T046	Scots pine (<i>Pinus sylvestris</i>)	10	100	C1	T077	Scots pine (<i>Pinus sylvestris</i>)	15	450	B1
T015	Beech (<i>Fagus sp.</i>)	15	400	C1	T047	Scots pine (<i>Pinus sylvestris</i>)	10	300	B1	T078	Scots pine (<i>Pinus sylvestris</i>)	15	350	B1
T016	Scots pine (<i>Pinus sylvestris</i>)	15	300	B1	T048	Scots pine (<i>Pinus sylvestris</i>)	15	250	B1	T079	Scots pine (<i>Pinus sylvestris</i>)	15	350	B1
T017	Scots pine (<i>Pinus sylvestris</i>)	12	250	B1	T049	Scots pine (<i>Pinus sylvestris</i>)	15	300	B1	T080	Scots pine (<i>Pinus sylvestris</i>)	18	500	B1
T018	Scots pine (<i>Pinus sylvestris</i>)	13	250	C1	T050	Scots pine (<i>Pinus sylvestris</i>)	11	200	C1	T081	Scots pine (<i>Pinus sylvestris</i>)	18	600	B1
T019	Scots pine (<i>Pinus sylvestris</i>)	11	200	C1	T051	Scots pine (<i>Pinus sylvestris</i>)	15	250	B1	T082	Scots pine (<i>Pinus sylvestris</i>)	9	250	C1
T020	Scots pine (<i>Pinus sylvestris</i>)	14	250	U	T052	Scots pine (<i>Pinus sylvestris</i>)	14	250	U	T083	Scots pine (<i>Pinus sylvestris</i>)	14	400	C1
T021	Scots pine (<i>Pinus sylvestris</i>)	15	400	B1	T053	Scots pine (<i>Pinus sylvestris</i>)	15	150	C1	T084	Scots pine (<i>Pinus sylvestris</i>)	15	300	B1
T022	Scots pine (<i>Pinus sylvestris</i>)	15	250	C1	T054	Scots pine (<i>Pinus sylvestris</i>)	15	400	U	T085	Scots pine (<i>Pinus sylvestris</i>)	15	300	B1
T023	Scots pine (<i>Pinus sylvestris</i>)	15	250	C1	T055	Scots pine (<i>Pinus sylvestris</i>)	15	350	B1	T086	Scots pine (<i>Pinus sylvestris</i>)	16	400	B1
T024	Scots pine (<i>Pinus sylvestris</i>)	15	350	B1	T056	Scots pine (<i>Pinus sylvestris</i>)	9	150	C1	T087	Scots pine (<i>Pinus sylvestris</i>)	16	500	B1
T025	Scots pine (<i>Pinus sylvestris</i>)	15	250	B1	T057	Scots pine (<i>Pinus sylvestris</i>)	15	400	B1	T088	Scots pine (<i>Pinus sylvestris</i>)	15	300	B1
T026	Scots pine (<i>Pinus sylvestris</i>)	15	250	C1	T058	Scots pine (<i>Pinus sylvestris</i>)	15	350	B1	T089	Scots pine (<i>Pinus sylvestris</i>)	11	300	C1
T027	Scots pine (<i>Pinus sylvestris</i>)	15	250	C1	T059	Scots pine (<i>Pinus sylvestris</i>)	15	300	B1	T090	Scots pine (<i>Pinus sylvestris</i>)	14	450	B1
T028	Scots pine (<i>Pinus sylvestris</i>)	15	400	B1	T060	Scots pine (<i>Pinus sylvestris</i>)	15	450	B1	T091	Scots pine (<i>Pinus sylvestris</i>)	14	400	B1
T029	Scots pine (<i>Pinus sylvestris</i>)	15	250	C1	T061	Scots pine (<i>Pinus sylvestris</i>)	18	500	B1	T092	Field maple (<i>Acer campestre</i>)	11	500	B1
T031	Scots pine (<i>Pinus sylvestris</i>)	10	150	C1	T062	Scots pine (<i>Pinus sylvestris</i>)	18	650	B1	T093	Field maple (<i>Acer campestre</i>)	9	300	C1
T032	Scots pine (<i>Pinus sylvestris</i>)	14	250	U	T063	Scots pine (<i>Pinus sylvestris</i>)	18	450	C1	T094	Beech (<i>Fagus sp.</i>)	15	800	A1



Tree protection and site monitoring		
Planning, communication and preliminary timing of events		
Site managers, clearance and construction teams are normally expected to deliver the tree protection requirements shown on this plan, so it will be important for these relevant parties to be involved at the earliest stages of site works. In this context, a pre-commencement site meeting is critical to understand the necessary tree protection requirements for this site to avoid unnecessary tree harm.		
The table below summarises the important elements of site supervision/monitoring:-		
Pre-commencement site meeting	A pre-commencement meeting must be held on site before any of the site clearance/demolition or construction works start. This should be attended by the contractor's site manager or agent, the project arboriculturist and (if available) 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.	
Arboriculturist's role	• Liaise with developer and LPA to ensure that appropriate protective measures are in place before any works start on site • Inspect the site to check that the arboricultural conditions have been complied with and advise where day to day tree problems arise • Advise on the issue of work instructions relating to arboricultural matters	
Frequency of visits	• As agreed at the pre-commencement meeting	
Reporting	• The site manager will be advised in writing at the time of the visit of any relevant points to be followed up with a formal letter of confirmation	
Communication	• LPA and developer to be copied relevant correspondence	

Site monitoring checklist: The following site monitoring checklist is an aide-memoire for all pre-commencement and site supervision visits. After each visit, it, or something similar, should be circulated to all relevant parties and kept as a record to demonstrate that all site operations have been compliant with the approved tree protection requirements, and to satisfy the discharge of planning conditions.		
Pre-commencement	Compliant Y/N	Action
Acceptable demolition/site clearance works		
Tree works undertaken/additional requirements		
Method statement/tree protection plan available on site		
Suitable locations for welfare and material storage etc.		
Suitable space available for vehicle access etc.		
Services/soakaway locations agreed		
Tree protection/precautions	Compliant Y/N	Action
Protective fencing		
Ground protection		
Temporary surfacing		
New surfacing/reinstatement of existing		
Structures in RPAs		
Hand digging to install services		
Soft/hard landscaping		
Soil amelioration requirements		
Any other precautionary measures required within RPAs		
Outcome of meeting	Y/N	Action
Can the development lawfully start/continue?		
Are changes required on site to comply with approved tree protection plan?		

Key:

- T001 Trees - colour coded by BS 5837 category
- A BS category - Trees of high quality
- B BS category - Trees of moderate quality
- C BS category - Trees of low quality
- U BS category - Trees unsuitable for retention
- Notional BS 5837 RPA boundaries
- Tree canopies
- Existing layout
- Proposed layout
- Construction exclusion zone (CEZ) to be protected by BS 5837 compliant 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. Wadley Trees Ltd cannot be held responsible for inaccuracies in the topographical plan on which this drawing is based. © Wadley Trees Ltd 2020.

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: Chemring Countermeasures

Reviewed: CSA Architects

Owner: EIS
Project: M4W
Date: 18 Dec 25
Revision:

Location of trees/obstruction in development at:
Chemring Countermeasures, High Post, Salisbury, SP4 6AS

Project Name: WTP1
Project Type: Tree Protection Plan

Scale: 1:500
Drawn: A1
Printed: PUBLISHED

Project No: WT 102-25
Project Name: 3557-TYPE - Warehouse - Prop Site Plan and 3557-2-11-0 - Waste Facility - Prop Site Plan

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

Tree No.	Species	Height (m)	Stem diameter(s) (mm)	Spread	Physiological Cond	Structural Cond	Life Stage	Survey Notes	Rem. Contrib.	Retention Category	RPA	Recommendations
G001	Scots pine (<i>Pinus sylvestris</i>) Beech (<i>Fagus sp.</i>)	14	400		Good	Fair	Semi Mature	Restrictions to access: Dense ivy present on several trees. Mostly healthy trees with some showing minor defects that could be addressed by remedial care and /or work to adjacent trees. Some dead and collapsed trees within the group require some management.	40+ Years	B1	Area: 466 sq m.	
T002	Scots pine (<i>Pinus sylvestris</i>)	11	350		Good	Fair	Semi Mature	Restrictions to access: Dense ivy present. Competes with adjacent trees.	40+ Years	B1	Radius: 4.2m. Area: 55 sq m.	Prune lowest secondary and tertiary branches to provide up to 4m clearance over the road to facilitate construction vehicles.
T003	Scots pine (<i>Pinus sylvestris</i>)	14	300		Good	Good	Semi Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 3.6m. Area: 41 sq m.	Prune lowest secondary and tertiary branches to provide up to 4m clearance over the road to facilitate construction vehicles.
T004	Beech (<i>Fagus sp.</i>)	10	250		Good	Good	Semi Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 3.0m. Area: 28 sq m.	Prune lowest secondary and tertiary branches to provide up to 4m clearance over the road to facilitate construction vehicles.

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)

Tree No.	Species	Height (m)	Stem diameter(s) (mm)	Spread	Physiological Cond	Structural Cond	Life Stage	Survey Notes	Rem. Contrib.	Retention Category	RPA	Recommendations
T005	Beech (<i>Fagus sp.</i>)	14	300		Good	Fair	Semi Mature	Competes with adjacent trees. Trunk/branch junction with no bonding at the fork, indicating the union at this point may substantially weaker than a more reliable tensile fork (cup) shaped bark ridge.	40+ Years	C1	Radius: 3.6m. Area: 41 sq m.	Prune lowest secondary and tertiary branches to provide up to 4m clearance over the road to facilitate construction vehicles.
T006	Scots pine (<i>Pinus sylvestris</i>)	13	250		Fair	Fair	Semi Mature	Restrictions to access: Dense ivy present. Competes with adjacent trees. Its removal would benefit better trees	40+ Years	C1	Radius: 3.0m. Area: 28 sq m.	
T007	Scots pine (<i>Pinus sylvestris</i>)	13	350		Fair	Fair	Semi Mature	Restrictions to access: Dense ivy present. Competes with adjacent trees. Competes with adjacent trees. Its removal would benefit better trees	40+ Years	C1	Radius: 4.2m. Area: 55 sq m.	
T008	Scots pine (<i>Pinus sylvestris</i>)	14	250		Fair	Fair	Semi Mature	Restrictions to access: Dense ivy over trunk Competes with adjacent trees. Its removal would benefit better trees	40+ Years	C1	Radius: 3.0m. Area: 28 sq m.	
T009	Scots pine (<i>Pinus sylvestris</i>)	14	350		Good	Fair	Semi Mature	Restrictions to access: Dense ivy present. Competes with adjacent trees.	40+ Years	B1	Radius: 4.2m. Area: 55 sq m.	
T010	Scots pine (<i>Pinus sylvestris</i>)	14	350		Good	Fair	Semi Mature	Restrictions to access: Dense ivy present. Competes with adjacent trees.	40+ Years	B1	Radius: 4.2m. Area: 55 sq m.	
T011	Scots pine (<i>Pinus sylvestris</i>)	14	200		Dead	Poor	Semi Mature	Dead tree	Dead	U	Radius: 2.4m. Area: 18 sq m.	

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)

Tree No.	Species	Height (m)	Stem diameter(s) (mm)	Spread	Physiological Cond	Structural Cond	Life Stage	Survey Notes	Rem. Contrib.	Retention Category	RPA	Recommendations
G012	Ash (<i>Fraxinus sp.</i>) Scots pine (<i>Pinus sylvestris</i>) Lime (<i>Tilia sp.</i>) Cherry (<i>Prunus sp.</i> 'Cherry') Field maple (<i>Acer campestre</i>) Beech (<i>Fagus sp.</i>)	10	400		Good	Fair	Semi Mature	Provides useful boundary cover. Some minor defects evident on some trees that could be addressed by remedial care and /or work to adjacent trees. Dieback symptoms visible throughout the crowns of several ash trees.	40+ Years	B1	Area: 1804 sq m.	
G013	Scots pine (<i>Pinus sylvestris</i>) Beech (<i>Fagus sp.</i>)	14	400		Good	Fair	Semi Mature	Restrictions to access: Dense ivy present on several trees. Mostly healthy trees with some showing minor defects that could be addressed by remedial care and /or work to adjacent trees.	40+ Years	B1	Area: 466 sq m.	

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)

Tree No.	Species	Height (m)	Stem diameter(s) (mm)	Spread	Physiological Cond	Structural Cond	Life Stage	Survey Notes	Rem. Contrib.	Retention Category	RPA	Recommendations
T014	Beech (<i>Fagus sp.</i>)	15	400		Good	Good	Early Mature	Competes with adjacent trees. Its removal would benefit better trees Natural bracing occurring above weak union with signs of stem fusion. Trunk fork junction with adaptive growth, indicating the tree may be compensating for any potential weakness at this point. The union is likely to be providing some mechanical strength, but it is not entirely reliable. Some crown management is appropriate.	40+ Years	B1	Radius: 4.8m. Area: 72 sq m.	
T015	Beech (<i>Fagus sp.</i>)	15	400		Good	Fair	Early Mature	Restrictions to access: Dense ivy present. Competes with adjacent trees. Its removal would benefit better trees	30+ Years	C1	Radius: 4.8m. Area: 72 sq m.	
T016	Scots pine (<i>Pinus sylvestris</i>)	15	300		Good	Good	Semi Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 3.6m. Area: 41 sq m.	
T017	Scots pine (<i>Pinus sylvestris</i>)	12	250		Good	Good	Semi Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 3.0m. Area: 28 sq m.	
T018	Scots pine (<i>Pinus sylvestris</i>)	13	250		Fair	Fair	Semi Mature	Competes with adjacent trees. Its removal would benefit better trees	40+ Years	C1	Radius: 3.0m. Area: 28 sq m.	
T019	Scots pine (<i>Pinus sylvestris</i>)	11	200		Fair	Fair	Semi Mature	Competes with adjacent trees. Its removal would benefit better trees	40+ Years	C1	Radius: 2.4m. Area: 18 sq m.	

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)

Tree No.	Species	Height (m)	Stem diameter(s) (mm)	Spread	Physiological Cond	Structural Cond	Life Stage	Survey Notes	Rem. Contrib.	Retention Category	RPA	Recommendations
T020	Scots pine (<i>Pinus sylvestris</i>)	14	250		Dead	Poor	Semi Mature	Dead tree	Dead	U	Radius: 3.0m. Area: 28 sq m.	
T021	Scots pine (<i>Pinus sylvestris</i>)	15	400		Good	Good	Early Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 4.8m. Area: 72 sq m.	
T022	Scots pine (<i>Pinus sylvestris</i>)	15	250		Fair	Fair	Semi Mature	Competes with adjacent trees. Its removal would benefit better trees	40+ Years	C1	Radius: 3.0m. Area: 28 sq m.	
T023	Scots pine (<i>Pinus sylvestris</i>)	15	250		Fair	Fair	Semi Mature	Competes with adjacent trees. Its removal would benefit better trees	40+ Years	C1	Radius: 3.0m. Area: 28 sq m.	
T024	Scots pine (<i>Pinus sylvestris</i>)	15	350		Good	Good	Early Mature	Competes with adjacent trees. Large dead stem evident.	40+ Years	B1	Radius: 4.2m. Area: 55 sq m.	
T025	Scots pine (<i>Pinus sylvestris</i>)	15	250		Good	Good	Semi Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 3.0m. Area: 28 sq m.	
T026	Scots pine (<i>Pinus sylvestris</i>)	15	250		Fair	Fair	Semi Mature	Competes with adjacent trees. Its removal would benefit better trees	40+ Years	C1	Radius: 3.0m. Area: 28 sq m.	
T027	Scots pine (<i>Pinus sylvestris</i>)	15	250		Fair	Fair	Semi Mature	Competes with adjacent trees. Its removal would benefit better trees	40+ Years	C1	Radius: 3.0m. Area: 28 sq m.	
T028	Scots pine (<i>Pinus sylvestris</i>)	15	400		Good	Good	Semi Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 4.8m. Area: 72 sq m.	

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)

Tree No.	Species	Height (m)	Stem diameter(s) (mm)	Spread	Physiological Cond	Structural Cond	Life Stage	Survey Notes	Rem. Contrib.	Retention Category	RPA	Recommendations
T029	Scots pine (<i>Pinus sylvestris</i>)	15	250		Fair	Fair	Semi Mature	Competes with adjacent trees. Its removal would benefit better trees	40+ Years	C1	Radius: 3.0m. Area: 28 sq m.	
T031	Scots pine (<i>Pinus sylvestris</i>)	10	150		Fair	Fair	Semi Mature	Competes with adjacent trees. Its removal would benefit better trees	20+ Years	C1	Radius: 1.8m. Area: 10 sq m.	
T032	Scots pine (<i>Pinus sylvestris</i>)	14	250		Dead	Poor	Semi Mature	Dead tree	Dead	U	Radius: 3.0m. Area: 28 sq m.	
T033	Scots pine (<i>Pinus sylvestris</i>)	14	250	N:1 E:9 S:1 W:1	Dead	Poor	Semi Mature	Dead tree/collapsed	Dead	U	Radius: 3.0m. Area: 28 sq m.	
T034	Scots pine (<i>Pinus sylvestris</i>)	10	250		Fair	Fair	Semi Mature	Competes with adjacent trees. Its removal would benefit better trees	40+ Years	C1	Radius: 3.0m. Area: 28 sq m.	
T035	Scots pine (<i>Pinus sylvestris</i>)	10	200		Fair	Fair	Semi Mature	Competes with adjacent trees. Its removal would benefit better trees	40+ Years	C1	Radius: 2.4m. Area: 18 sq m.	
T036	Scots pine (<i>Pinus sylvestris</i>)	14	250		Dead	Poor	Semi Mature	Dead tree	Dead	U	Radius: 3.0m. Area: 28 sq m.	
T037	Scots pine (<i>Pinus sylvestris</i>)	15	300		Good	Good	Early Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 3.6m. Area: 41 sq m.	
T038	Scots pine (<i>Pinus sylvestris</i>)	15	300		Good	Good	Early Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 3.6m. Area: 41 sq m.	

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)

Tree No.	Species	Height (m)	Stem diameter(s) (mm)	Spread	Physiological Cond	Structural Cond	Life Stage	Survey Notes	Rem. Contrib.	Retention Category	RPA	Recommendations
T039	Scots pine (<i>Pinus sylvestris</i>)	12	200		Fair	Fair	Semi Mature	Competes with adjacent trees. Its removal would benefit better trees	40+ Years	C1	Radius: 2.4m. Area: 18 sq m.	
T040	Scots pine (<i>Pinus sylvestris</i>)	10	200		Fair	Fair	Semi Mature	Competes with adjacent trees. Its removal would benefit better trees	40+ Years	C1	Radius: 2.4m. Area: 18 sq m.	
T041	Scots pine (<i>Pinus sylvestris</i>)	14	250	N:1 E:10 S:1 W:1	Dead	Poor	Semi Mature	Dead tree/collapsed	Dead	U	Radius: 3.0m. Area: 28 sq m.	
T042	Scots pine (<i>Pinus sylvestris</i>)	15	350		Good	Fair	Early Mature	Restrictions to access: Dense ivy present. Competes with adjacent trees.	40+ Years	B1	Radius: 4.2m. Area: 55 sq m.	
T043	Scots pine (<i>Pinus sylvestris</i>)	15	300		Good	Good	Early Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 3.6m. Area: 41 sq m.	
T044	Scots pine (<i>Pinus sylvestris</i>)	15	250		Good	Good	Early Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 3.0m. Area: 28 sq m.	
T045	Scots pine (<i>Pinus sylvestris</i>)	15	300		Good	Good	Early Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 3.6m. Area: 41 sq m.	
T046	Scots pine (<i>Pinus sylvestris</i>)	10	100		Fair	Fair	Semi Mature	Competes with adjacent trees. Its removal would benefit better trees	40+ Years	C1	Radius: 1.2m. Area: 5 sq m.	
T047	Scots pine (<i>Pinus sylvestris</i>)	10	300		Good	Good	Early Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 3.6m. Area: 41 sq m.	

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Tree No.	Species	Height (m)	Stem diameter(s) (mm)	Spread	Physiological Cond	Structural Cond	Life Stage	Survey Notes	Rem. Contrib.	Retention Category	RPA	Recommendations
T048	Scots pine (<i>Pinus sylvestris</i>)	15	250		Good	Good	Early Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 3.0m. Area: 28 sq m.	
T049	Scots pine (<i>Pinus sylvestris</i>)	15	300		Good	Good	Early Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 3.6m. Area: 41 sq m.	
T050	Scots pine (<i>Pinus sylvestris</i>)	11	200		Fair	Fair	Semi Mature	Competes with adjacent trees. Its removal would benefit better trees	40+ Years	C1	Radius: 2.4m. Area: 18 sq m.	
T051	Scots pine (<i>Pinus sylvestris</i>)	15	250		Good	Good	Early Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 3.0m. Area: 28 sq m.	
T052	Scots pine (<i>Pinus sylvestris</i>)	14	250		Dead	Poor	Early Mature	Dead tree Restrictions to access: Dense ivy present.	Dead	U	Radius: 3.0m. Area: 28 sq m.	
T053	Scots pine (<i>Pinus sylvestris</i>)	15	150		Fair	Fair	Early Mature	Drawn up slender tree with poor stem taper	20+ Years	C1	Radius: 1.8m. Area: 10 sq m.	
T054	Scots pine (<i>Pinus sylvestris</i>)	15	400	N:1 E:10 S:1 W:1	Dead	Poor	Semi Mature	Dead tree/collapsed	Dead	U	Radius: 4.8m. Area: 72 sq m.	
T055	Scots pine (<i>Pinus sylvestris</i>)	15	350		Good	Fair	Early Mature	Competes with adjacent trees. Restrictions to access: Dense ivy present.	40+ Years	B1	Radius: 4.2m. Area: 55 sq m.	
T056	Scots pine (<i>Pinus sylvestris</i>)	9	150		Fair	Fair	Semi Mature	Competes with adjacent trees. Its removal would benefit better trees	40+ Years	C1	Radius: 1.8m. Area: 10 sq m.	

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Tree No.	Species	Height (m)	Stem diameter(s) (mm)	Spread	Physiological Cond	Structural Cond	Life Stage	Survey Notes	Rem. Contrib.	Retention Category	RPA	Recommendations
T057	Scots pine (<i>Pinus sylvestris</i>)	15	400		Good	Good	Early Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 4.8m. Area: 72 sq m.	
T058	Scots pine (<i>Pinus sylvestris</i>)	15	350		Good	Good	Early Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 4.2m. Area: 55 sq m.	
T059	Scots pine (<i>Pinus sylvestris</i>)	15	300		Good	Good	Early Mature	Competes with adjacent trees. Restrictions to access: Dense ivy present.	40+ Years	B1	Radius: 3.6m. Area: 41 sq m.	
T060	Scots pine (<i>Pinus sylvestris</i>)	15	450		Good	Good	Early Mature	Competes with adjacent trees. Restrictions to access: Dense ivy present.	40+ Years	B1	Radius: 5.4m. Area: 92 sq m.	
T061	Scots pine (<i>Pinus sylvestris</i>)	18	500		Good	Good	Early Mature	Competes with adjacent trees. Restrictions to access: Dense ivy present.	40+ Years	B1	Radius: 6.0m. Area: 113 sq m.	
T062	Scots pine (<i>Pinus sylvestris</i>)	18	650		Good	Good	Early Mature	Competes with adjacent trees. Restrictions to access: Dense ivy present.	40+ Years	B1	Radius: 7.8m. Area: 191 sq m.	
T063	Scots pine (<i>Pinus sylvestris</i>)	18	450		Good	Good	Early Mature	Competes with adjacent trees. Restrictions to access: Dense ivy present. Drawn up slender tree with poor stem taper	20+ Years	C1	Radius: 5.4m. Area: 92 sq m.	
T064	Scots pine (<i>Pinus sylvestris</i>)	18	500		Good	Good	Early Mature	Competes with adjacent trees. Restrictions to access: Dense ivy present.	40+ Years	B1	Radius: 6.0m. Area: 113 sq m.	

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Tree No.	Species	Height (m)	Stem diameter(s) (mm)	Spread	Physiological Cond	Structural Cond	Life Stage	Survey Notes	Rem. Contrib.	Retention Category	RPA	Recommendations
T065	Scots pine (<i>Pinus sylvestris</i>)	18	400		Good	Good	Early Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 4.8m. Area: 72 sq m.	
T066	Scots pine (<i>Pinus sylvestris</i>)	18	450		Good	Good	Early Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 5.4m. Area: 92 sq m.	
T067	Scots pine (<i>Pinus sylvestris</i>)	9	200		Good	Fair	Semi Mature	Competes with adjacent trees. Its removal would benefit better trees	40+ Years	C1	Radius: 2.4m. Area: 18 sq m.	
T068	Scots pine (<i>Pinus sylvestris</i>)	14	300		Dead	Poor	Semi Mature	Dead tree	Dead	U	Radius: 3.6m. Area: 41 sq m.	
T069	Scots pine (<i>Pinus sylvestris</i>)	14	250		Dead	Poor	Semi Mature	Dead tree	Dead	U	Radius: 3.0m. Area: 28 sq m.	
T070	Scots pine (<i>Pinus sylvestris</i>)	15	250		Good	Good	Early Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 3.0m. Area: 28 sq m.	
T071	Scots pine (<i>Pinus sylvestris</i>)	15	450		Good	Good	Early Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 5.4m. Area: 92 sq m.	
T072	Scots pine (<i>Pinus sylvestris</i>)	15	450		Good	Good	Early Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 5.4m. Area: 92 sq m.	
T073	Scots pine (<i>Pinus sylvestris</i>)	15	300		Good	Good	Early Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 3.6m. Area: 41 sq m.	

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Tree No.	Species	Height (m)	Stem diameter(s) (mm)	Spread	Physiological Cond	Structural Cond	Life Stage	Survey Notes	Rem. Contrib.	Retention Category	RPA	Recommendations
T074	Scots pine (<i>Pinus sylvestris</i>)	15	300		Good	Good	Early Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 3.6m. Area: 41 sq m.	
T075	Scots pine (<i>Pinus sylvestris</i>)	15	400		Good	Good	Early Mature	Competes with adjacent trees. Low branch on southern side.	40+ Years	B1	Radius: 4.8m. Area: 72 sq m.	
T076	Scots pine (<i>Pinus sylvestris</i>)	9	200		Good	Fair	Semi Mature	Poorly developed tree, with low future potential for improvement. Easily replaced	40+ Years	C1	Radius: 2.4m. Area: 18 sq m.	
T077	Scots pine (<i>Pinus sylvestris</i>)	15	450		Good	Good	Early Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 5.4m. Area: 92 sq m.	
T078	Scots pine (<i>Pinus sylvestris</i>)	15	350		Good	Good	Early Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 4.2m. Area: 55 sq m.	
T079	Scots pine (<i>Pinus sylvestris</i>)	15	350		Good	Good	Early Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 4.2m. Area: 55 sq m.	
T080	Scots pine (<i>Pinus sylvestris</i>)	18	500		Good	Good	Early Mature	Competes with adjacent trees. Restrictions to access: Dense ivy present.	40+ Years	B1	Radius: 6.0m. Area: 113 sq m.	
T081	Scots pine (<i>Pinus sylvestris</i>)	18	600		Good	Good	Early Mature	Competes with adjacent trees. Restrictions to access: Dense ivy present.	40+ Years	B1	Radius: 7.2m. Area: 163 sq m.	

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Tree No.	Species	Height (m)	Stem diameter(s) (mm)	Spread	Physiological Cond	Structural Cond	Life Stage	Survey Notes	Rem. Contrib.	Retention Category	RPA	Recommendations
T082	Scots pine (<i>Pinus sylvestris</i>)	9	250		Good	Fair	Semi Mature	Competes with adjacent trees. Its removal would benefit better trees Restrictions to access: Dense ivy present.	30+ Years	C1	Radius: 3.0m. Area: 28 sq m.	
T083	Scots pine (<i>Pinus sylvestris</i>)	14	400		Good	Fair	Early Mature	Doglegged trunk form with decay present at base of stem.	20+ Years	C1	Radius: 4.8m. Area: 72 sq m.	
T084	Scots pine (<i>Pinus sylvestris</i>)	15	300		Good	Good	Semi Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 3.6m. Area: 41 sq m.	
T085	Scots pine (<i>Pinus sylvestris</i>)	15	300		Good	Good	Semi Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 3.6m. Area: 41 sq m.	
T086	Scots pine (<i>Pinus sylvestris</i>)	16	400		Good	Good	Semi Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 4.8m. Area: 72 sq m.	
T087	Scots pine (<i>Pinus sylvestris</i>)	16	500		Good	Good	Semi Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 6.0m. Area: 113 sq m.	
T088	Scots pine (<i>Pinus sylvestris</i>)	15	300		Good	Good	Semi Mature	Competes with adjacent trees.	40+ Years	B1	Radius: 3.6m. Area: 41 sq m.	
T089	Scots pine (<i>Pinus sylvestris</i>)	11	300		Good	Fair	Early Mature	Restrictions to access: Dense ivy present. Competes with adjacent trees.	40+ Years	C1	Radius: 3.6m. Area: 41 sq m.	

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)

Tree No.	Species	Height (m)	Stem diameter(s) (mm)	Spread	Physiological Cond	Structural Cond	Life Stage	Survey Notes	Rem. Contrib.	Retention Category	RPA	Recommendations
T090	Scots pine (<i>Pinus sylvestris</i>)	14	450		Good	Fair	Semi Mature	Restrictions to access: Dense ivy present. Competes with adjacent trees.	40+ Years	B1	Radius: 5.4m. Area: 92 sq m.	
T091	Scots pine (<i>Pinus sylvestris</i>)	14	400		Good	Fair	Semi Mature	Restrictions to access: Dense ivy present. Competes with adjacent trees.	40+ Years	B1	Radius: 4.8m. Area: 72 sq m.	
T092	Field maple (<i>Acer campestre</i>)	11	500		Good	Fair	Early Mature	Some minor defects evident that could be addressed by remedial care.	30+ Years	B1	Radius: 6.0m. Area: 113 sq m.	
T093	Field maple (<i>Acer campestre</i>)	9	300		Good	Fair	Semi Mature	Suppressed tree, with low future potential for improvement. Easily replaced	20+ Years	C1	Radius: 3.6m. Area: 41 sq m.	
T094	Beech (<i>Fagus sp.</i>)	15	800		Good	Good	Mature	No significant defects and could be retained with minimal remedial care.	40+ Years	A1	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:

Tree no/feature: 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.

Appendix 2 - Data Collection Cont'd: Explanatory notes

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 retention 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 which is summarised in paragraph 2.3 of this report.

Appendix 2 - Data Collection Cont'd: Explanatory notes

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.

Recommendations: Any necessary work requirements to implement the development proposal or for safety concerns are recorded in this column.

Future tree safety inspections: My 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 my advice on tree condition must be reviewed annually from the date of that visit.

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 the British Standard (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 Chemring Countermeasures, High Post, Salisbury, SP4 6AS.
- 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 WTP1. A copy of which should be displayed prominently on site.
- 1.4 **Planning, communication and preliminary timing of events:** It is not unusual for the details of timing of operations that could impact on important trees to only be finalised once planning consent has been given. Site managers, clearance and construction teams and other important personnel are normally only appointed at this stage, and it is these people who will be crucial in delivering the tree protection detailed in this report. My experience is that the pre-commencement site meeting is critical in terms of avoiding damage to trees and this aspect, along with tree protection issues can be specifically referenced in a suitably worded planning condition imposed by the LPA. In the intervening time, I propose the following preliminary cascading timetable of events to help minimise risk of impact on important trees. However, the following schedule may be modified at the pre-commencement meeting, subject to discussion with all parties and agreement with the LPA:
1. Pre-commencement site meeting
 2. Extent of any arboricultural supervision agreed
 3. Tree works undertaken
 4. Protective barriers erected before any clearance or construction activities occur on site and notification to the LPA that this is in place
 5. Tree protection only removed at the end of the construction phase when there is no longer any risk to trees

Appendix 3 – Arboricultural Method Statement

2. Supervision and monitoring

2.1 **Responsibilities:** It will be the Project Manager/builder's responsibility to ensure that the details of this method statement are known and understood by all site personnel. A copy must be always kept on site and the site manager must brief all personnel who could have an impact on the specific tree protection requirements. This should be a part of the site induction procedures and written into appropriate site management documents. If appropriate, the builder should instruct an arboriculturist to comply with any necessary planning conditions relating to pre-commencement meetings and/or agree protection with ongoing supervision requirements sanctioned by the LPA.

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 should be attended by the contractor's site manager or agent, the project arboriculturist and (if available) 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 (see section 4.2 below). It may be appropriate for the tree surgery contractor to attend this meeting.

The table below summarises the important elements of this supervision:-

Initial site visit	The developer, the site manager, the developer's arboriculturist and the LPA arboriculturist must meet on site <u>before</u> any development activity starts to confirm the timing and implementation of the agreed tree protective measures
Arboriculturist's role	- Liaise with developer and LPA to ensure that appropriate protective measures are in place before any works start on site - Inspect the site to check that the arboricultural conditions have been complied with and advise where day to day tree problems arise - Advise on the issue of work instructions relating to arboricultural matters
Frequency of visits	To be agreed at the pre-commencement meeting
Reporting	The site manager will be advised in writing at the time of the visit of any relevant points to be followed up with a formal letter of confirmation
Communication	LPA and developer to be copied relevant correspondence

2.3 **Phase 2 (special precautions during construction):** All the retained trees will be protected from damage using barriers (fencing). All these protective measures are shown on the plan WTP1 and explained within the examples provided in the tree protection guidance section below.

Appendix 3 – Arboricultural Method Statement

3. Specific tree protection issues on this site

- 3.1 **Tree pruning:** All works to trees identified to facilitate the development proposal (as set out in Appendix 2 of the tree schedule) will be undertaken before the construction works commence on site.
- 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 plan WTP1 until construction is completed. It may only be moved or removed with consent from the LPA or project arboriculturist. 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 **Storage areas outside the RPAs:** Before construction begins on site, it is important to identify the exact areas outside the RPA that minimise chemical pollution and damage from construction materials. Materials should not be handled or stored within the RPAs of retained trees; the load exerted can result in soil compaction and leachate from spill can be toxic to trees.
- 3.4 **Services:** Where possible, the existing services will be used to avoid disruption within RPAs. 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 hand digging guidance notes below. I advise that these matters are considered at an early stage and agreed with the LPA prior to the work commencing.
- 3.5 **Hand digging precautions:** Any hand digging works required for installation of new services must be done in accordance with the BS5837:2012 recommendations in relation to hand digging (clauses 7.2.1- 7.2.4) and the tree protection guidance notes below. The following hand digging guidance should be followed when installing the structure to minimise harm to the adjacent trees:
- All excavation in RPAs must be supervised and 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, flexible clumps of smaller roots, including fibrous roots, should be retained if they can be displaced temporarily or permanently beyond the excavation without damage.
 - 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.

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- d) Roots smaller than 25 mm diameter may be pruned back, making a clean cut with a suitable sharp tool (e.g. bypass secateurs or handsaw), except where they occur in clumps. Roots occurring in clumps or over 25 mm diameter should be severed only following consultation with the project arboriculturist, as such roots might be essential to the tree's health and stability.
- e) Prior to backfilling, retained roots should be surrounded with topsoil or uncompacted sharp sand (builders' sand should not be used because of its high salt content, which is toxic to tree roots), or other loose inert granular fill, before soil or other suitable material is replaced. This material should be free of contaminants and other foreign objects potentially injurious to tree roots.

3.6 **Site access:** Construction vehicles need space to work, so trees can be compromised once construction starts. To successfully prevent damage to 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 need to be considered. Working this out at the earliest stage possible is crucial to minimise harm to important trees.

3.7 **Reinstatement/landscaping works:** No heavy machinery should be driven over unprotected ground and materials must be stored outside RPAs. The tree protective fencing can only be removed with the agreement of the project arboriculturist and may have to be reinstalled during a break in operations. Any soil removal or replacement, excavations for hard landscaping or installation of any structures including lighting, water, electric gates etc must be approved by the project arboriculturist. Unwanted vegetation can be removed using handheld tools to avoid damage to the stems of retained trees. Planting holes for new trees or shrubs shall be dug by hand and will be repositioned if woody roots are encountered. For further advice, refer to the tree protection guidance notes below.

4. Summary of 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:

- All tree protection details set out on the approved tree protection plan should be agreed at the pre-commencement meeting and recorded by the project arboriculturist for all parties to consider.
- Protective barriers must be regarded as sacrosanct and must only be moved under direct supervision of the LPA or project 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.

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- All construction machinery engaged in site clearance work should work from outside the RPAs.
- No materials, chemicals, machinery or vehicles must be stored within the RPAs as defined on the tree protection plan WTP1 and identified on site by protective fencing.
- Damage caused to protective fencing must be reported to the site supervisor and the project arboriculturist to ensure appropriate repair.
- Any damage to retained trees must be reported without delay to the site supervisor, the LPA and the project arboriculturist so appropriate remedial work can take place without delay.
- No fires will be lit on site.
- Notice boards, telephone cables or any other signage or services are not to be attached to any part of retained trees.

- 4.2 **Site monitoring checklist:** The recommendation in BS5837:2012 is that wherever trees on or adjacent to a site have been identified within the tree protection plan for protective measures, there should be an auditable system of arboricultural monitoring. This should extend to arboricultural supervision whenever construction and development is to take place within or adjacent to any RPA. On this basis, the following site monitoring checklist is available to use for all pre-commencement and site supervision visits. After each visit, it, or something similar, should be circulated to all relevant parties and kept as a record to demonstrate that all site operations have been compliant with the approved tree protection requirements, and to satisfy the discharge of planning conditions.
- 4.3 **Tree protective guidance notes:** 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 below if tree harm is to be minimised.

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Pre-commencement checklist/supervision visits			
Site address		Date	
		Planning reference	
PRESENT		REPRESENTING	
Pre-commencement	Compliant Y/N	Action (If appropriate refer to additional notes)	
Acceptable demolition/site clearance works			
Tree works undertaken/additional requirements			
Method statement/tree protection plan available on site			
Suitable locations for welfare and material storage etc			
Suitable space available for vehicle access etc			
Services/soakaway locations agreed			
Tree protection/precautions	Compliant Y/N	Action (If appropriate refer to additional notes)	
Protective fencing			
Ground protection			
Temporary surfacing			
New surfacing/reinstatement of existing			
Structures in RPAs			
Excavations/level changes in RPAs			
Soft/hard landscaping			
Soil amelioration requirements			

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Outcome of meeting	Y/N	Action (If appropriate refer to additional notes)
Can the development lawfully start/continue?		
Are changes required on site to comply with approved tree protection plan?		

Date: / /	Name	Signature	Position

Additional notes	Agreed actions

General Principles

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.

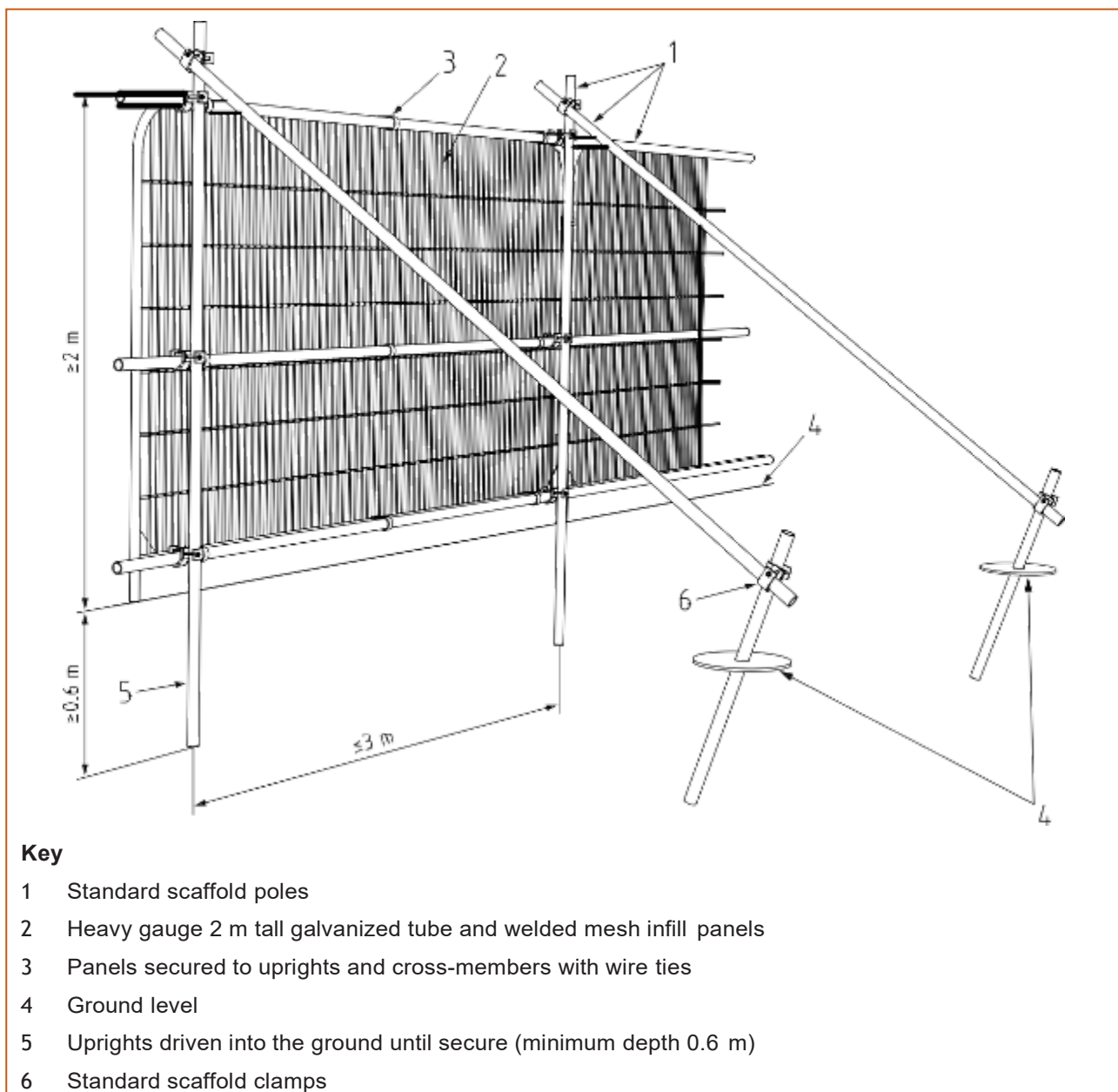
This advice should always be read in conjunction with the tree protection plan (TPP) illustrating the areas where specific precautions are necessary. Each area where precautions are required is annotated on the plans as identified on their keys. All plans are illustrative and intended to be interpreted 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 off 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 or removed without consent from the LPA or project arboriculturist. 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.

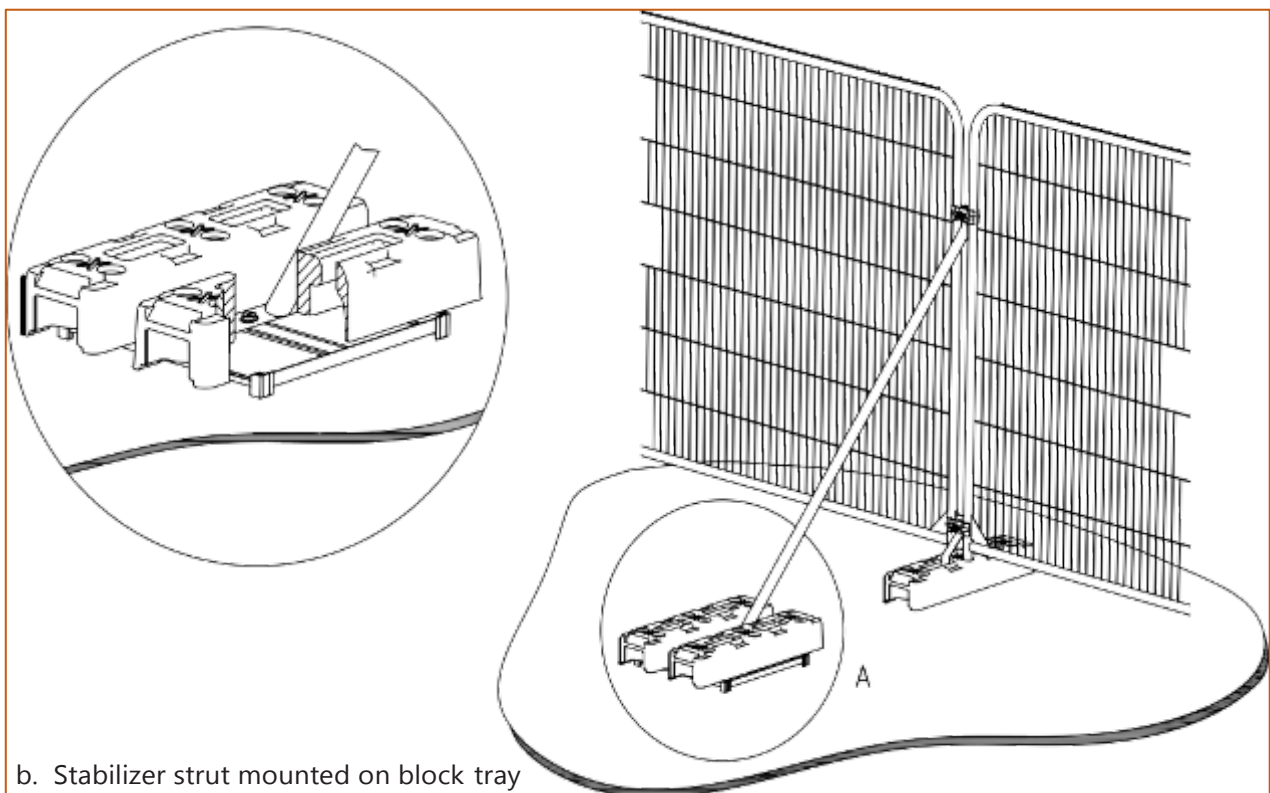
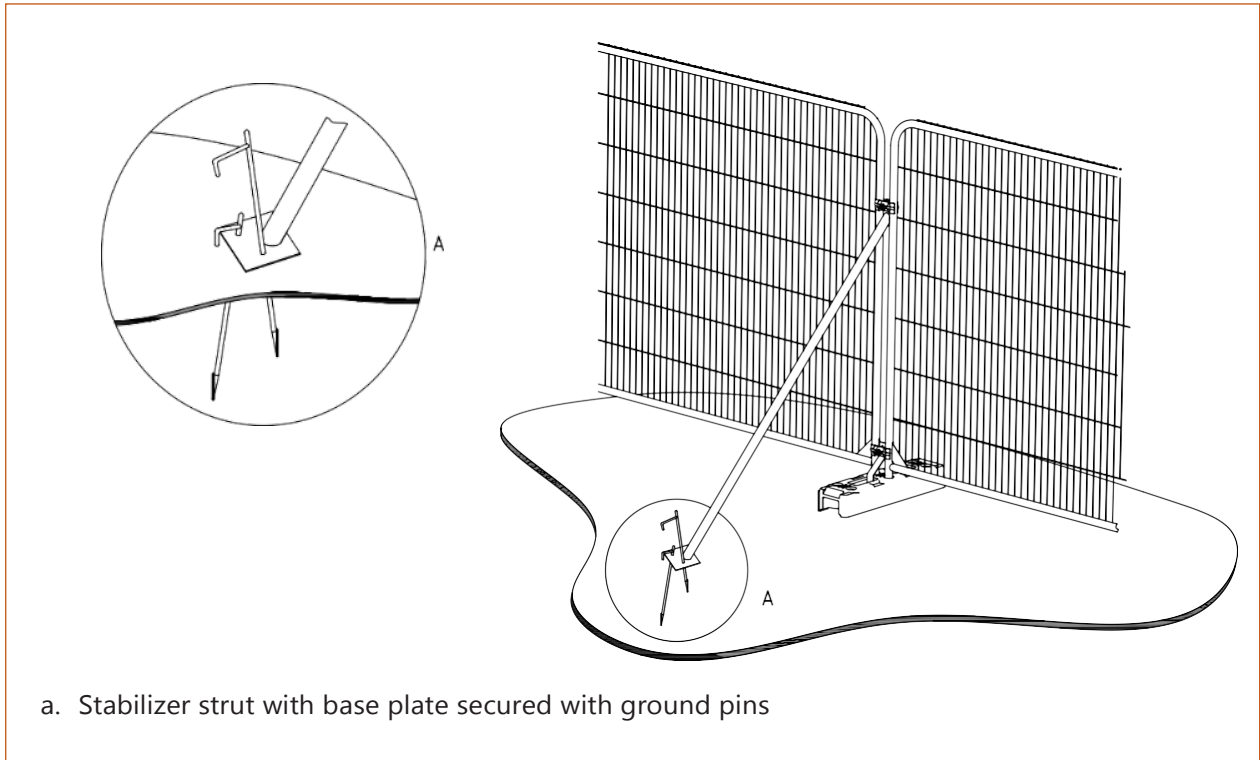


Extract from BS5837: 2012 Figure 2: Example of above-ground stabilizing systems

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Examples of tailored protective barriers: A range of methods can be used to protect the trunks and underlying soil but 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.

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



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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.



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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.

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, such as an air spade excavator (Image below), 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

- All work within RPAs must be carried out by hand under close and recorded arboricultural supervision.
- Machines should not enter protective zones unless there is a suitable existing hard standing.
- Excavation of open trenches by machine is unacceptable within the protective zone. Wherever possible, trenchless techniques should be used.



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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.



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.



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- 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.



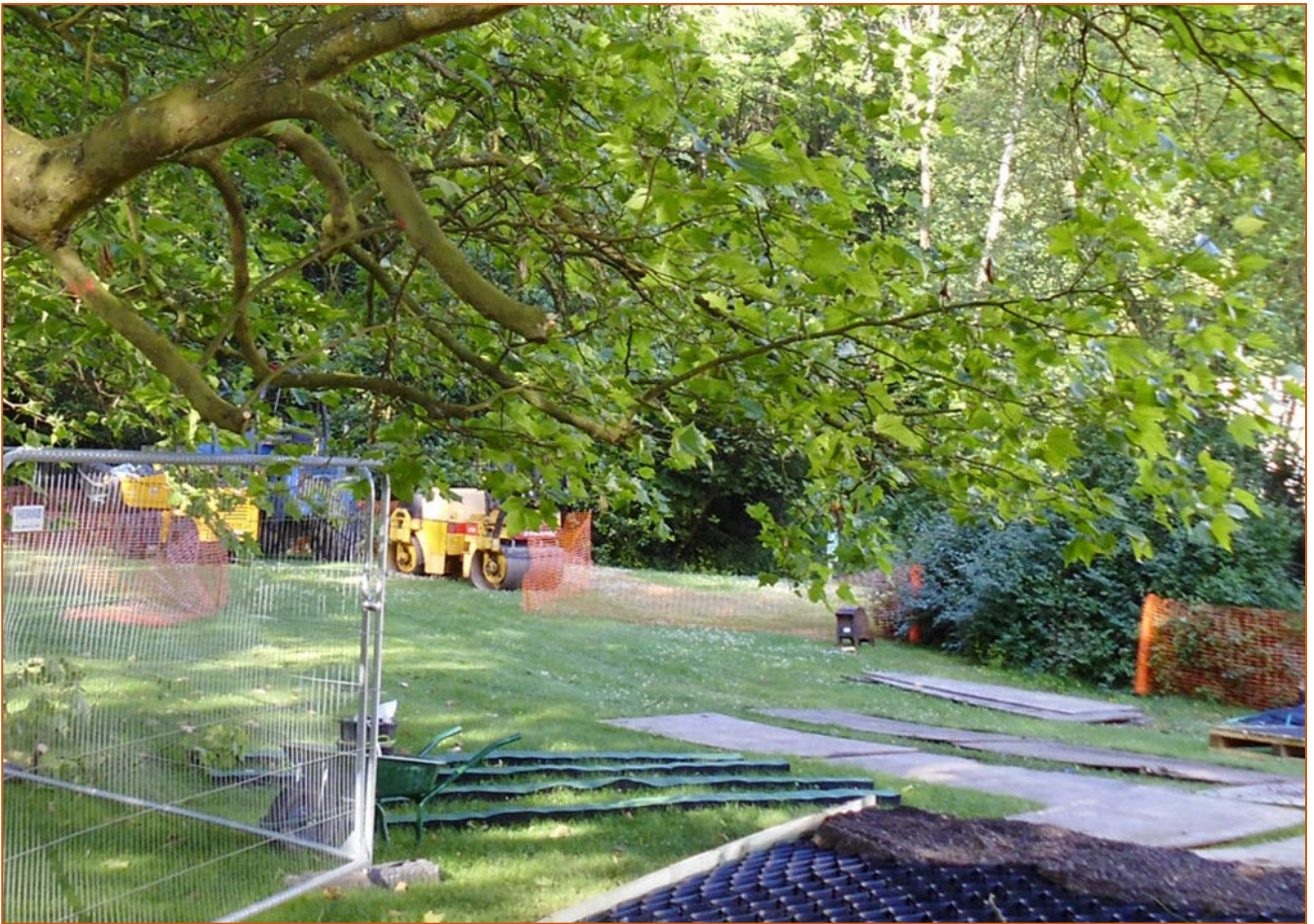
The following points must be adhered to:

Minimising harm from storage of pollutants

- The storage of fuels or toxic materials must be kept outside RPAs
- Emergency spillage kits must be available on site at all times to reduce the risk of accidents to the environment
- Where space is limited, contaminants must be kept safe using tailored containment systems fit for purpose.
- Cement washings must be contained to prevent leaching into the soil within RPAs
- 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.



Reinstatement works or landscaping around trees



Reinstatement works or landscaping in RPAs: Reinstatement works, or 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 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.

