



Arboricultural Method Statement for the generator installation work at Ty Grosvenor, Wrexham.

AIA2023-TyGro-AMS

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DATE:

20/6/23

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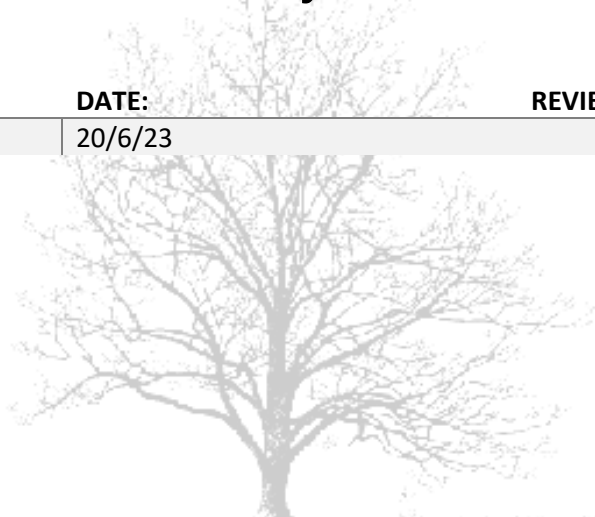
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Appended documents:

Initial Tree survey schedule

1. Introduction.

- 1.1 My name is Mark Clews and I am an arboriculturist, trained to degree level (Dip. Arb (RFS)). I have thirty years of professional experience in providing arboricultural advice for development projects of all sizes.
- 1.2 I have been instructed to provide an arboricultural method statement, as part of a tree protection strategy in relation to the intended generator installation works at Ty Grosvenor, Wrexham. This method statement & its associated tree work & tree protection plan covers all works of the project in proximity to site trees.
- 1.3 The Method Statement & accompanying tree work & protection plans also satisfy the requirements and standards laid out in BS5837:2012 (Trees in relation to design, demolition and construction – Recommendations).
- 1.4 This report will refer to a series of drawings that will be accompanying it. These drawings should be readily available to easily comprehend the various parts of this report.

Table A

REFERENCE DRAWINGS:

AIA2023-TYGRO-001-A-SURVEY	Tree survey plan
AIA2023-TYGRO-002-B-PROPOSED	Proposal/Constraints Plan
AIA2023-TYGRO-004-A-PROTECT	Tree protection plan

2. ARBORICULTURAL METHOD STATEMENT

Reference documents: AIA2023-TyGro-004-A-protect

1. Introduction

1.1 To safeguard the retained trees on the site during the development works, it is necessary to implement a tree protection strategy as outlined below. The following arboricultural method statement is to provide a protection methodology for trees to be retained throughout the proposed landscape operations at the site. The method statement needs to be read in conjunction with any accompanying tree protection plan. Together, these documents will protect the above and below ground parts of retained trees, as well as their rooting medium and preserve the soil structure of areas which may also have been allocated for new planting.

1.2 A copy of this AMS shall be maintained on site at all times and made available to all site personnel.

1.3 All site personnel shall be made aware of the key implications of this AMS and be given an arboricultural induction by the Site Manager. An Induction Form is attached to the end of this document. A copy of the Induction Form will be signed by all site personnel to confirm that they have understood the issues involved. The induction will clarify the various responsibilities & delegated duties of all involved in the development project with regard to tree protection.

1.4 This AMS is accompanied by tree protection plans. All documents must be available to understand the protection strategy.

2. Frequently used key terms and abbreviations

Tree Preservation Order	TPO
Arboricultural Method Statement	AMS
British Standard 5837 2012	BS 5837
Root Protection Area/Root Protection Areas	RPA/RPAs
Construction Exclusion Zone	CEZ
Local Planning Authority	LPA
Tree Protection Plan	TPP
Arboricultural Consultant/project arboriculturist	PA

3. Contact details of key arboricultural personnel

Principle Arboricultural Contacts:

Name	Role	Contact details
Mark Clews	Project arboriculturist	
	LA Tree Officer	
	Client/Client Agent	
	Site Agent	

4. Limitations

4.1 A full risk assessment of the trees (including the detailed assessment of decay or defects and their implications), has not been undertaken as this is considered beyond the scope of this protection strategy. Any significant hazards and defects have been identified in the Tree Survey Schedule and appropriate works recommended for immediate action.

4.2 No assessment has been made on the ecological value presented by the trees surveyed, neither has any comprehensive survey been carried out for priority species/EPS by the author of this statement.

5. Preliminary

5.1 The methodology of the tree protection measures roughly follows a logical sequence of development events. Variations to the sequence could significantly reduce the efficiency of the tree protection measures.

5.2 All development works within the RPA of any retained tree will be carried out strictly in accordance with the arboricultural method statement.

5.3 It is recommended that works within the RPA, as well as the installation & modification of all tree protection measures, are carried out under supervision by an arboriculturist. It is the responsibility of the client to appoint a project arboriculturist prior to commencement of the project. It is the responsibility of the client to agree with the project arboriculturist, the level of involvement required by the project arboriculturist.

5.4 It is the responsibility of the site supervisor & the client, to ensure the tree protection strategy is adhered to at all times throughout the life of the project. It is the responsibility of all contractors, following their induction to adhere to the tree protection measures.

5.5 A schedule of activities requiring arboricultural supervision at various stages has been produced (*Appendix D*). This should form the minimum site attendance by the appointed arboriculturist. The project arboriculturist will liaise at regular/staged intervals with the client to update them on the compliance with the approved tree protection measures.

6. Pre-commencement

6.1 A pre-commencement site meeting, involving representatives from the main contractor, the client and the project arboriculturist, will be held to ensure that all elements of the tree protection measures are understood and agreed.

6.2 Where it has been identified that changes to the protection plans are required, the required changes will be shown on a modified set of tree protection plans & submitted to the project team prior to commencement on the project.

6.3 In order for tree protection to work, arrangements will be put in place prior to commencement of the project phase, for the responsibility for management of the tree protection & its enforcement. To this end a table of delegated responsibilities and authority to halt works has been produced & will be agreed to by all involved in the supervision of the project (*Appendix E*).

6.4 A system of communication will be agreed at the pre-commencement meeting, between all those involved with tree protection. Contact details will be disseminated & arrangements for notification periods agreed. This information will be recorded by the project arboriculturist & submitted to the LPA for their information.

7. Induction

7.1 All contractors involved in the project will accept they have a duty to comply with all the specified tree protection measures. All contractors involved in the development project will be given an induction on the protection measures to be used on the site. A copy of this method statement will be given to all present & they will be required to sign a statement confirming they have understood the protection measures (*Appendix G*). A copy of the statement is appended to this AMS. The role & responsibility of the site manager in the tree protection measures will be explained at this stage & he/she will be required to sign a statement confirming their acceptance of the role as site manager (*Appendix G*).

8. Access facilitation tree work.

8.1 Any recommended tree work will be undertaken prior to any demolition / construction contractors commencing work on the site.

8.2 Prior to carrying out any tree work, all trees recommended for tree work including their immediately adjacent trees, will be inspected for bird nests (wholly and partially built ones). In the event bird nests are found (normally between April-September), the tree work will not be carried out until the trees are found to be free of the nesting birds & their young.

8.3 All tree work will be carried out in accordance with BS3998:2010 (please see appended schedule & tree removal/work plan for required tree work) and to current arboricultural best practice. They will also be carried out without harming the adjacent retained trees. Tree works will be carried out by a suitably qualified and experienced Arboricultural Contractor holding the necessary insurance cover. This contractor will carry out the relevant site specific risk assessments and record such information prior to commencement of tasks and work in accordance with current health and safety standards, practices and legislation.

8.4 If additional pruning of trees is later identified as required to facilitate the proposed works or access for machinery/plant, the project arboriculturist will be contacted to advise on appropriate works and liaise with the LPA as necessary.

9. Preliminary vegetation control.

9.1 All creepers/shrubs requiring removal will be removed prior to installation of protection measures.

10. Preliminary tree protection methods.

Unless otherwise stated, everything in this section will be undertaken prior to contractors taking possession of the site & immediately prior to moving to any subsequent phase of the project. The tree protection measures will be undertaken to the satisfaction of project arboriculturist.

Mulch

10.1 N/A.

Compaction monitoring

10.2 Prior to commencement of construction work, penetrometer readings will be undertaken within the RPAs of the nearby retained trees & these recorded for future reference.

Protection Fencing/Hoarding

10.3 Tree protection fencing/hoarding will be used to ensure that the RPAs of retained trees are safeguarded.

10.4 Protection fencing & hoarding of the type shown in the protection plans will be placed in the positions indicated on the protection plan. Note that these plans are to scale and can be scaled off. The fencing will be permanently fixed to the ground as shown in the plans using scaffold, or fixed to a permanent feature. Weatherproof signs will be attached to the fencing, stating their purpose and that they should not be moved. The protective fencing will create a construction exclusion area and will be considered immovable for the duration of the specified phase of the project, unless otherwise stated in this AMS. The positioning & installation of the protective fencing will be supervised by the project arboriculturist. Informative diagrams detailing the requirements for protective fencing have been appended to this document.

10.5 When protection fencing is to be relocated for subsequent phases of the project, the relocation will be undertaken immediately prior to the subsequent phase commencing.

10.6 Protection fencing/hoarding will be maintained & inspected on a weekly basis by the site manager. Inspections will be recorded on an inspection form. All damage to protective fencing or accidental damage to trees will be reported to the site manager immediately. Works occurring within the incident vicinity will cease immediately until adequate tree protection measures are re-established. A record of the damage will be made by the site manager and, in consultation with the project arboriculturist, remediation measures carried out. A weekly inspection record form is appended to this method statement (*Appendix F*).

10.7 Where protective hoarding is stipulated, this will be constructed in accordance with the supplied detail. The hoarding will not be fixed to the tree stem, but staked to the ground. External grade ply will be used for its construction. The hoarding will be constructed to a height of 2m minimum.

10.8 Where contractors site hoarding is proposed outside RPAs of retained trees, it can serve as adequate tree protection fencing. Where additional tree protection fencing is required inside the hoarding line, this can only be dispensed with by the construction of appropriate ground protection. The project arboriculturist will deem what is appropriate protection in this case.

Ground Protection

10.9 If and where ground protection is specified in the protection plans, ground protection of the type specified will be installed in the positions shown on the plan. Where Cellweb is required, the appropriate depth Cellweb over whatever ground exists, will be utilised. The construction of the Cellweb will be undertaken with due regard for the

canopies of the retained trees & using the constructed Cellweb as a base to work off (i.e. the lorries reversing up the Cellweb, to pour out aggregate to charge more cell of the Cellweb). This will be supervised by the project arboriculturist. Informative diagrams detailing the requirements for ground protection have been appended to this document.

10.10 The ground protection will remain in situ for the duration of the specified phase of the project, unless otherwise stated in this AMS, or the accompanying tree protection plans, or will be used as a sub-base for new hard surfaces.

10.11 Ground protection will be maintained & inspected on a weekly basis by the site manager. Inspections will be recorded on an inspection form. All damage to ground protection or accidental damage to trees will be reported to the site manager immediately. Works occurring within the incident vicinity will cease immediately until adequate tree protection measures are re-established. A record of the damage will be made by the site manager and, in consultation with the project arboriculturist, remediation measures carried out. A weekly inspection record form is appended to this method statement.

10.12 Where considered appropriate, existing hard surfaces or foundations will be used for ground protection, in addition to the Cellweb. These will be retained until landscape operations require their removal.

10.13 Removal of the ground protection will be undertaken using small plant equipment located on the ground protection working back on itself to avoid contact with the ground. Within the RPAs, this will be undertaken under arboricultural supervision. The removal of the ground protection will be undertaken once all delivery of landscape plants & materials are complete.

Restricted operating areas

10.14 Where it is impracticable to provide ground protection/protection fencing within RPAs of retained trees during hard & soft landscape operations within them, or existing site features provide protection, at the discretion of the project arboriculturist, the operations will be supervised by the project arboriculturist & the necessary work will be undertaken using hand tools only. These areas are highlighted on all protection plans. In addition to these measures, the general arboricultural restrictions will be observed that are documented in section 11 of this method statement.

10.15 Where restricting operating areas are indicated on the tree protection plan, the annotations will be adhered to. This may include a limited watching brief, a ban on certain vehicles sizes or weights, or on methods of work. The restrictions will be adhered to by all contractors onsite at all times.

11. General Arboricultural Methods and restrictions during all phases of development:

11.1 The fencing comprising the construction exclusion zone will not be moved, except if specified in the tree protection plans (when moving to different phases of the project). All staff on site will understand the need for protective fencing, as well as any ground protection and to keep strictly within the designated access routes, when moving in/out the site.

Storage:

11.2 No materials and/or plant will be stored within the designated root protection area of any of the trees and/or within the construction exclusion areas and/or under their canopies. Any liquid materials to be stored on site, will be located where, in any event of spillage, will allow for natural run-off to be away from the designated root protection areas and buffer zones and/or stored within a pre-constructed spillage containment area.

11.3 Fuel storage & charging areas will be bunded to avoid any contamination of the soil.

11.4 No dry construction materials will be stored within the RPAs of the retained trees, unless adequate ground protection (approved by the appointed arboriculturist), has been installed within the storage area.

11.5 No soil, demolition debris, or any other arisings will be stored within the RPAs or under canopies of the retained trees, whichever is the greater.

Contractor welfare facilities & parking:

11.6 The positions of all site facilities & contractor parking will be located outside any canopy areas & RPAs of any retained trees, unless otherwise stated in this AMS & indicated on the tree protection plans.

11.7 The location of all welfare units & parking areas will be identified at the pre-commencement meeting. If the agreed locations of these require a material change to the tree protection measures, or implicate additional trees, the protection plans will be revised to reflect this prior to any commencement of development.

Site access:

11.8 If the agreed construction access routes are to differ from those currently proposed, then a new protection plan will be produced.

11.9 The ingress, egress and internal movements of any cranes/plant, delivery vehicles (including their booms) & additional site traffic will be carried out without damage to any part of the retained trees. Where heavy plant equipment will be located under the canopies of retained trees to aid construction, these operations will be closely monitored by the project arboriculturist. Where required, height restrictors will be utilised.

11.10 The construction & dismantling of scaffold (if used), will be carried out without harm to any parts of the retained trees. If additional tree pruning is required to accommodate scaffold access, advice will be sought from the appointed arboriculturist prior to any branch cutting.

11.11 Crane / MEWP operatives will ensure no harm arises to the canopies of multiple protected trees through collisions with them by materials or any part of the crane, by ensuring adequate observation & controls at all times. This may require more than operative for the use of the crane.

General site activities:

11.12 The mixing of concrete and mortar will be performed outside any root protection areas, in such an area where in the event of any spills, any liquid will drain away from the root protection areas and any buffer zones and/or within a pre-constructed spillage containment area.

11.13 Where concrete will be used to form foundations & may fall within the rooting area or RPA of any retained tree, impermeable barriers will be used to protect tree roots & rooting medium from wet concrete.

11.14 No ground level changes will occur (no grading/levelling/raising), within any RPAs of the retained trees, unless consented to by the LPA & supervised by the appointed arboriculturist. Any previously agreed (by the LPA), changes to the ground levels within RPAs of retained trees will follow the advice of the project arboriculturist.

11.15 No additional tree work will be carried out unless consented to in writing by the LPA.

11.16 No fires will be lit within 20 metres of any RPAs or canopies of retained trees, whichever is the greater.

11.17 For the purposes of this method statement, significant roots referred to, constitute individual roots of diameters of 25mm and above, as well as dense fibrous root masses. The significance of both will be determined by the project arboriculturist upon discovery of either.

11.18 If for some reason roots 20mm and smaller in diameter are damaged that belong to retained trees, these should be cut cleanly and covered in damp Hessian or soil. If roots 25mm and larger are damaged or if a large number of smaller roots are damaged, these should be covered in damp Hessian or soil & advice should be sought from the project arboriculturist prior to treating them. Where roots have been covered in Hessian, this will be removed immediately prior to backfilling.

11.19 Notice boards, signs, telephone cables or any other services will not be attached to any parts of retained trees

Excavations within RPAs:

11.20 Where excavations or scraping of the current surfaces are required within the RPAs of existing trees, this will be undertaken under constant arboricultural supervision, using hand tools only.

11.21 Exposed roots will be covered with damp hessian until they are to be covered.

11.22 Charging and compaction of base/sub-base layers will be undertaken using hand tools only.

11.23 Use of watertight shuttering and/or membranes will be used to ensure exposed roots do not come into contact with wet cement.

Root Severance:

11.28 All severance/shortening/other pruning of exposed tree roots will only be undertaken by the project arboriculturist.

12. Additional Controls:

Underground services:

12.1 Excavations for any external underground services will (where possible) be routed outside any RPAs. If it is unavoidable that underground services be run inside RPAs, then the trenches for them will be excavated by hand or air-spade. Any roots that span the trench during digging will not be cut, but will have damp Hessian sacking placed around them. Damaged roots of up to 2cm dia will, where possible, be cut cleanly and covered. Any substantial roots (larger than 25mm dia), that become damaged or need to be removed, advice will first be sought from the supervising arboriculturist prior to any work being carried out on them. This will be carried out under arboricultural supervision.

12.2 If and when installing infrastructure for underground services, they will be done by hand within any RPA and care will be taken not to damage the exposed roots. Back-fill within an RPA will not be compacted and will possess the same soil profile as the surrounding soil. If there is a need to compact Backfill, in preparation for the reinstatement and/or installation of infrastructure within an RPA, then CU structural soil will be used as Backfill.

12.3 The timing of any excavations for underground services will coincide with the arrival of materials to be used for the construction of the underground services, to minimise the time that roots are exposed. Roots will not be left exposed for more than 24 hours.

Level Changes:

12.4 No grading of the soil will occur beyond that which has already been agreed within any RPAs without the presence of the project arboriculturist, to ensure retained trees are not unnecessarily damaged. Plant equipment involved in any grading that is consented to, will be situated outside of any RPAs of retained trees & will reach in.

12.6 The existing soil levels will not be raised from their original levels by more than 150mm within RPAs of retained trees, without seeking advice from the appointed arboricultural consultant. Plant equipment involved in any level changes will be situated outside of any RPAs of retained trees & will reach in, only under supervision from the project arboriculturist.

13. Landscape operations:

13.1 None proposed.

Fencing foundations within RPAs:

13.2. Where the above is proposed within the RPAs of retained trees, the posts/stanchions for these will be installed into the ground carefully using hand tools only. If significant roots are found during hand excavation, then an alternate location will be found using the same method. The soil will be protected from the use of cement, by impermeable membranes (e.g. polythene sheets used to line holes). This will be carried out after main construction activities have been completed. The installation of stanchions/posts will be carried out carefully under the canopies of retained trees to ensure the canopies are not damaged

14. Site Supervision

14.1 Effective tree protection relies on following a logical sequence of events and arboricultural inspection/supervision. BS5837:2012 recommends site supervision at regular intervals, as well as an auditable system of overall development site arboricultural supervision. A schedule of site activities requiring supervision has been produced.

14.2 Works which have the potential to affect trees will be supervised by the project arboriculturist for their duration. The final details of supervision and the frequency of inspection visits will be agreed at the pre-commencement meeting. The Project Arboriculturist will make a record of visits, which will be attached to the site copy of the AMS. An example of the Site Inspection Record is found appended to this document.

14.3 The site supervisor will be required to undertake daily inspections of the tree protection fencing prior to daily commencement of the work for the duration of the project. The inspection will be recorded on a schedule and forwarded to the project arboriculturist. It is the responsibility of the client & the site manager to ensure this occurs.

14.4 The project arboriculturist will supervise initial relocation & construction of tree protection measures & any subsequent changes to them. This will imply frequent site visits during construction of tree protection measures, with minimal visits subsequently. The project arboriculturist will monitor all activities within the RPAs & canopies of the retained trees.

14.5 The project arboriculturist will be given a programme of works schedule to aid the scheduling of site visits. The site agents will be instructed to request site visits by the project arboriculturist for works where his monitoring is required at least 5 days in advance.

15. Activities in breach of tree protection

15.1 Where activities occur in breach of the tree protection measures, the project arboriculturist will be immediately advised of such & work halted until he has assessed the event & any mitigation measures recommended have been undertaken.

15.2 If the project arboriculturist detects breaches of tree protection measures during the project, he will immediately advise the site supervisor & the client. All site activities will cease until any recommended mitigation measures have been undertaken.

15.3 Where activities have been carried out without adequate tree protection, the site activities will be halted until the project arboriculturist has assessed the event & provided mitigation measures.

15.4 Where the above ground parts of the retained trees have been damaged, construction activities will cease until the project arboriculturist has assessed the damage & any mitigation measures recommended have been undertaken.

15.5 Where the below ground parts of the retained trees have been damaged (including soil compaction), construction activities will cease until the project arboriculturist has assessed the damage & any mitigation measures recommended have been undertaken.

16. Post-development tree Care and remediation:

16.1 Once all intended activities have been completed, any remaining ground protection/protection fencing will be removed.

16.2 A detailed visual inspection of the retained tree on the site & its RPA, including repeat penetrometer readings, will be carried out, to check for signs of development damage to both the tree and its rooting environment. Appropriate remedial tree / soil work will then be recommended by the project arboriculturist. The recommendations (if any) will be forwarded in report form to the LPA tree officer by the project arboriculturist. A plan with pre-commencement penetrometer readings has been appended to this document for reference.

16.3 Where it is considered appropriate, a post development tree inspection regime will be implemented to monitor the health of the retained & replaced trees for an agreed period of time after the development project is complete. The project arboriculturist will provide reports to the client & the local authority tree officer at agreed times, on the condition of the retained trees & any remediation work recommended.

17. Amendments

17.1 Where any additions to the existing intended works (as of 29/4/2021) are proposed, this AMS will be revised, to ensure adequate tree protection extends to the additional works.

17.2 Any amendments required to this AMS will be discussed with the project arboriculturist and approved in writing by the LPA prior to being implemented. Copies of paperwork relating to any amendments shall be attached to the site copy of the AMS to provide a definitive record of what has been agreed. Revised tree protection plans will be submitted to all stakeholders in the project prior to assuming revisions.

17.3 It is possible that modifications to the current tree protection measures shown, will be required. Where these are arboriculturally acceptable, the modifications will be shown on an updated plan/s & submitted to the project team prior to commencement.

This concludes the method statement.

Mark Clews.

Appendix D - Sequencing, Supervision & delegated responsibilities:

The following table lays out the requirements & level of arboricultural supervision at various stages & who should be responsible for it.

General Supervision schedule for the specified phase of proposed development				
Part	Action	Person responsible	Stage	Date (if Possible)
1	Issue initial tree protection plans & arboricultural method statement to all contractors involved in project	Client/Project manager	At tender stage & again pre-commencement	TBA
2	Give project Arboriculturist (PA) at least a fortnight notice of pre-commencement meeting	Client/Developer	Pre-commencement	TBA
3	Pre-commencement meeting	Site Manager, Tree Officer and Project Arboriculturist	Pre-commencement	TBA
4	Modify Approved Tree Protection Plans & issue to LPA for consent (if required). If approved, issue to contractors	Project arboriculturist	Pre-commencement	TBA
5	Arboricultural induction	All Contractors	Pre-commencement/entrance to site by all contractors	TBA
6	Carry out preliminary/access facilitation tree works / undertake initial penetrometer tests	Project Arboriculturist to post inspect / Project Arboriculturist to undertake	immediately prior to construction of tree protection measures	TBA
7	Erect tree protection hoarding/fencing and any identified ground protection	Site manager to supervise / Project Arboriculturist to inspect	Immediately following from preliminary tree work & prior to contractor entering site	TBA
8	Inform LPA on completion of protection measures for specified phase of work	Project Arboriculturist	Following construction of initial tree protection measures	TBA
9	Monitor condition of any tree protection fencing & ground protection for duration of works	Site manager to monitor / Project Arboriculturist to audit	Weekly	Ongoing
10	Monitor any foundation installations within RPAs/CEZs & under any canopies	Project Arboriculturist / Site manager to supervise / Project Arboriculturist to audit	Continual for duration of intended invasive works.	TBA
11	Post development inspection of trees & RPAs, including repeat penetrometer tests & inform client on any required remediation work	Project Arboriculturist	Post construction & prior to Handover	TBA

Appendix E - Table of delegated responsibilities

Table of delegated responsibilities pursuant to discharge of planning conditions & authority to halt work

Name	Position	Role	Authority	Responsibility
<i>Elysium Healthcare</i>	Client/ client representative	Owner of the land/agent for owner of the land	Power to halt work	To ensure tree protection measures stipulated, are undertaken to satisfaction of LPA.
	Arboricultural officer (Local authority)	Local authority	Power to halt work	To ensure tree protection measures are undertaken.
	Construction company representative	Senior manager	Power to halt work	Company charged with the discharge of tree protection conditions. Responsibility to act on advice provided by project arboriculturist
	Site manager	Supervisor of construction operations on site	Power to halt work	To undertake all stipulated tree protection measures in the sequence provided. To act on recommendations provided by project arboriculturist. To ensure all site staff are aware of tree protection requirements & consent to their constraints. To give project arboriculturist 5 days advanced notice of all work within canopies/RPAs of retained trees. To ensure all construction & landscape works are compliant with arboricultural constraints. To cease work until adequate tree protection measures are applied to the satisfaction of project arboriculturist. To halt all work when a breach of tree protection/damage to a retained tree occurs, until project arboriculturist is satisfied work can resume
<i>Mark Clews</i>	Project arboriculturist	To provide arboricultural supervision	Advisory only. Power to enter site, once initial site induction is completed.	Monitor all tree protection measures. Supervise all demolition/construction activities within RPAs/canopies of retained trees. To advise site agent on additional protection measures where required. To provide mitigation measures following breach of tree protection in timely manner. To advise LPA of breach to tree protection. Report back to LPA on protection measures, to the satisfaction of LPA.

Appendix F - Supervision report form

Arboricultural Site Supervision – Inspection Sheet	
Site	
Inspected by:	
Client:	
Site Agent:	Date of Inspection:
	Time of Inspection:

Tree Protective fencing
Comments/Actions
Specified ground protection
Comments/Actions:
Additional remedial works

Additional General Comments

Appendix G - Induction Form for all Site Personnel:

Site Name:

Date:

Statement	Tick to confirm statement
I have had explained to me by the Site Manager the key implications of the Arboricultural Method Statement relating to the development at the above site.	
I am aware that the tree protective fencing must remain in its original position and must not be moved without the approval of the appointed Arboricultural Consultant.	
I am aware that any ground protection for the trees must remain in its original position and must not be moved without the approval of the appointed Arboricultural Consultant	
I have had explained to me & I have understood that there are some usual working practices that are prohibited on this site, to protect the retained trees. I have understood where these relate to my role as a contractor	
I understand that certain operations must be supervised by the appointed Project Arboriculturist and that these operations must not start until the Arboriculturist is present or has given approval.	
I confirm that I will bring any concerns about potential damage to trees to the attention of the Site Manager.	
As the site manager, I understand my responsibility in protection the trees during the construction project.	

I am aware that I must not cause damage to any of the retained trees on or adjacent to the site. Damage may be caused by direct means (i.e. physical damage caused to roots or the trunk/branches of the tree) or by indirect means (e.g. by fire or toxic materials entering the rooting environment of the tree).

Print Name:

Signature:

Appendix H – Identified facilitation tree work & removal schedule:

(Please note that additional tree work may be required depending on the construction access route selected)

NONE REQUIRED OR PROPOSED.

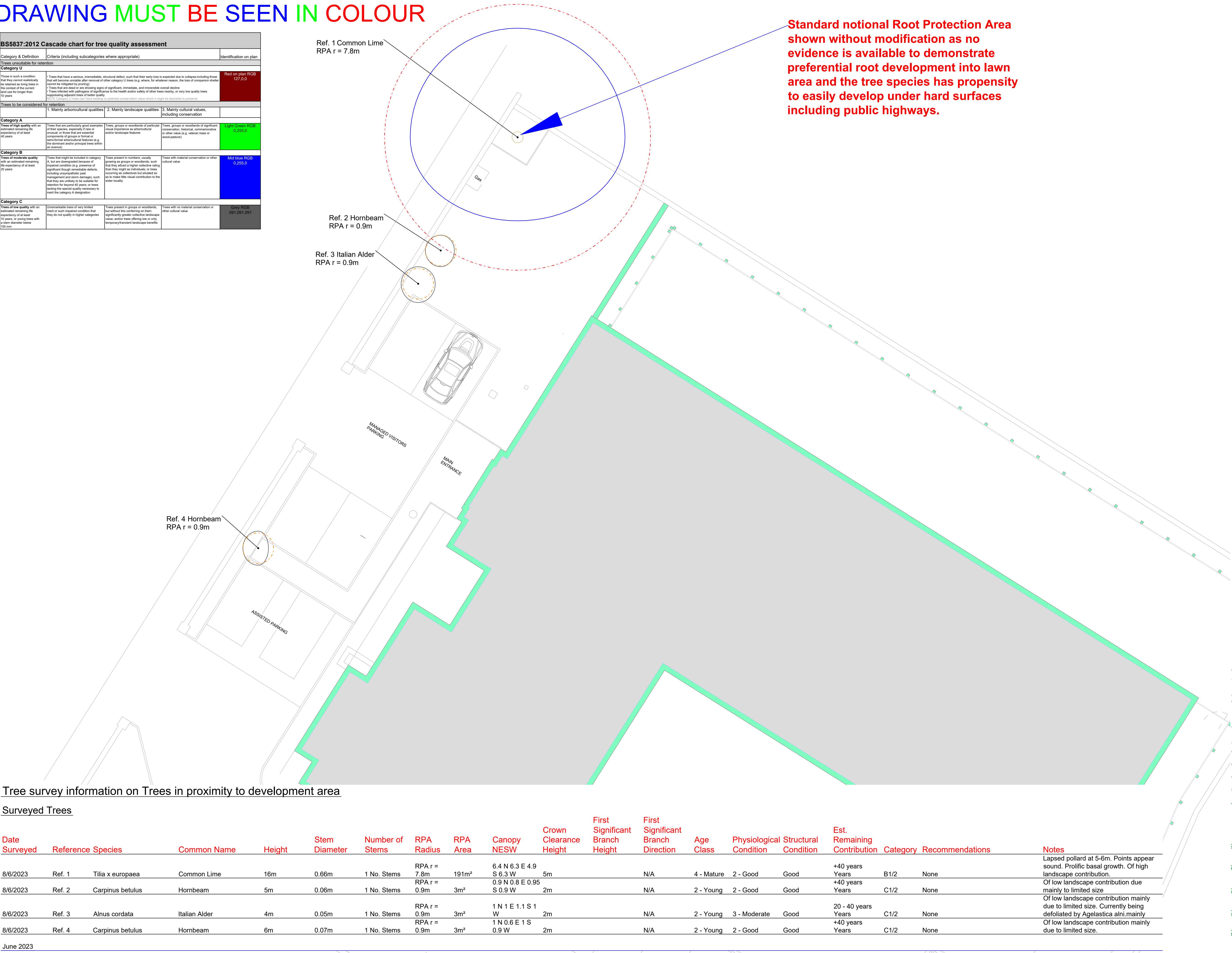
Appendix I – Root Protection Area Schedule of Retained Trees:

RPA SCHEDULE OF RETAINED SITE TREES

SURVEYED TREES							
REFERENCE	Species	Common Name	Stem Diameter	Number of Stems	RPA Radius	RPA Area	Category
REF. 1	Tilia x europaea	Common Lime	0.66m	1 No. Stems	RPA r = 7.8m	191m ²	B1/2
REF. 2	Carpinus betulus	Hornbeam	0.06m	1 No. Stems	RPA r = 0.9m	3m ²	C1/2
REF. 3	Alnus cordata	Italian Alder	0.05m	1 No. Stems	RPA r = 0.9m	3m ²	C1/2
REF. 4	Carpinus betulus	Hornbeam	0.07m	1 No. Stems	RPA r = 0.9m	3m ²	C1/2

DRAWING MUST BE SEEN IN COLOUR

BS5837:2012 Cascade chart for tree quality assessment				
Category & Definition			Criteria (including subcategories where appropriate)	
Trees unsuitable for retention			Identification on plan	
Category U			Red on plan RGB 127,0,0	
Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years			- Trees that have a serious, immediate, structural defect, such that their early loss is expected due to collapse, including those that will become unstable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning); - Trees that are dead or are showing signs of significant, irreversible, and irreversible overall decline; - Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees requiring adjacent trees of better quality NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve	
Trees to be considered for retention				
			1. Mainly arboricultural qualities	2. Mainly landscape qualities
Category A			Light Green RGB 0,255,0	
Trees of high quality with an estimated remaining life expectancy of at least 40 years			Trees that are particularly good examples of their species, especially if rare or unusual, or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	
Category B			Mid blue RGB 0,255,0	
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years			Trees present in numbers, usually growing in groups or woodlands, such that they attract a higher collective rating than they might as individuals, or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	
Category C			Grey RGB 091,091,091	
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm			Trees with no material conservation or other cultural value	



- Key:
- BS5837 A CLASS TREE. HATCHED CANOPY DENOTES REMOVAL/REPLACEMENT
 - BS5837 B CLASS TREE. HATCHED CANOPY DENOTES REMOVAL/REPLACEMENT
 - BS5837 C CLASS TREE. HATCHED CANOPY DENOTES REMOVAL/REPLACEMENT
 - BS5837 U CLASS TREE. HATCHED CANOPY DENOTES REMOVAL/REPLACEMENT
 - BS5837 ROOT PROTECTION ZONE FOR TREES THAT SHOULD NORMALLY BE CONSIDERED FOR RETENTION, THEREBY POTENTIALLY PRESENTING CONSTRAINTS TO THE DESIGN & CONSTRUCTION OF THE PROPOSAL.
 - BS5837 ROOT PROTECTION ZONE FOR TREES THAT ARE OF LOW QUALITY / VALUE AND DO NOT NORMALLY PRESENT CONSTRAINTS TO THE DESIGN & CONSTRUCTION OF THE PROPOSAL

BS5837:2012 **Calculation** of stem diameters & Root Protection Areas:

Trees with single stems = $\text{Stem dia} \times 12 = \text{RPA radius}$

Trees with 2 - 5 stems = $\sqrt[3]{(\text{stem dia } 1)^3 + (\text{stem dia } 2)^3 + \dots + (\text{stem dia } 5)^3} = \text{Stem dia} \times 12 = \text{RPA radius}$

Trees with 6+ stems = $\sqrt[3]{(\text{mean stem dia})^3 \times \text{number of stems}} = \text{Stem dia} \times 12 = \text{RPA radius}$

Notes;

Tree survey plan showing existing tree survey data for client site.

Drawing accuracy;

a. The non-arboricultural parts of this drawing have been produced using spatial data derived from a survey undertaken by others. No responsibility can be taken for incorrect site features. If any arboricultural mistakes are identified, inform the arboriculturist.

b. Unless otherwise stated, do not scale off drawing. Dimensions shown must be used. Any shown dimensions are in meters.

Tree Survey data;

c. Survey plan indicates tree positions, canopy dimensions & BS5837 tree quality categories through colour of canopies.

d. For detailed information on the trees shown, please read the accompanying tree survey schedule.

e. Supplementary information on the surveyed trees may be found in an accompanying arboricultural report.

f. Trees with stem diameters below 7cm will not have been recorded, unless specifically requested.

Tree survey information on Trees in proximity to development area

Surveyed Trees

Date Surveyed	Reference Species	Common Name	Height	Stem Diameter	Number of Stems	RPA Radius	RPA Area	Canopy NESW	Crown Clearance Height	First Significant Branch Height	First Significant Branch Direction	Age Class	Physiological Condition	Structural Condition	Est. Remaining Contribution	Category	Recommendations	Notes
8/6/2023	Ref. 1	Tilia x europaea	Common Lime	16m	0.66m	1 No. Stems	RPA r = 7.8m 191m²	6.4 N 6.3 E 4.9 S 6.3 W	5m		N/A	4 - Mature	2 - Good	Good	+40 years Years	B1/2	None	Lapsed pollard at 5-6m. Points appear sound. Prolific basal growth. Of high landscape contribution.
8/6/2023	Ref. 2	Carpinus betulus	Hornbeam	5m	0.06m	1 No. Stems	RPA r = 0.9m 3m²	0.9 N 0.8 E 0.95 S 0.9 W	2m		N/A	2 - Young	2 - Good	Good	+40 years Years	C1/2	None	Of low landscape contribution due mainly to limited size
8/6/2023	Ref. 3	Alnus cordata	Italian Alder	4m	0.05m	1 No. Stems	RPA r = 0.9m 3m²	1 N 1 E 1.1 S 1 W	2m		N/A	2 - Young	3 - Moderate	Good	20 - 40 years Years	C1/2	None	Of low landscape contribution mainly due to limited size. Currently being defoliated by Agelastica alni.mainly
8/6/2023	Ref. 4	Carpinus betulus	Hornbeam	6m	0.07m	1 No. Stems	RPA r = 0.9m 3m²	1 N 0.6 E 1 S 0.9 W	2m		N/A	2 - Young	2 - Good	Good	+40 years Years	C1/2	None	Of low landscape contribution mainly due to limited size.
June 2023																		

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WEB: WWW.ARBORHELP.CO.UK

Site:

Ty Grosvenor

Plan Title:

Tree Survey Plan

Client:

Elysium Healthcare

Scale:

1:100@A1

Date:

20/06/2023

Issue Status:

ISSUED

Drawing No:

AIA2023-TyGro-001-A-survey

Revision:

A

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RPA Schedule of retained site trees

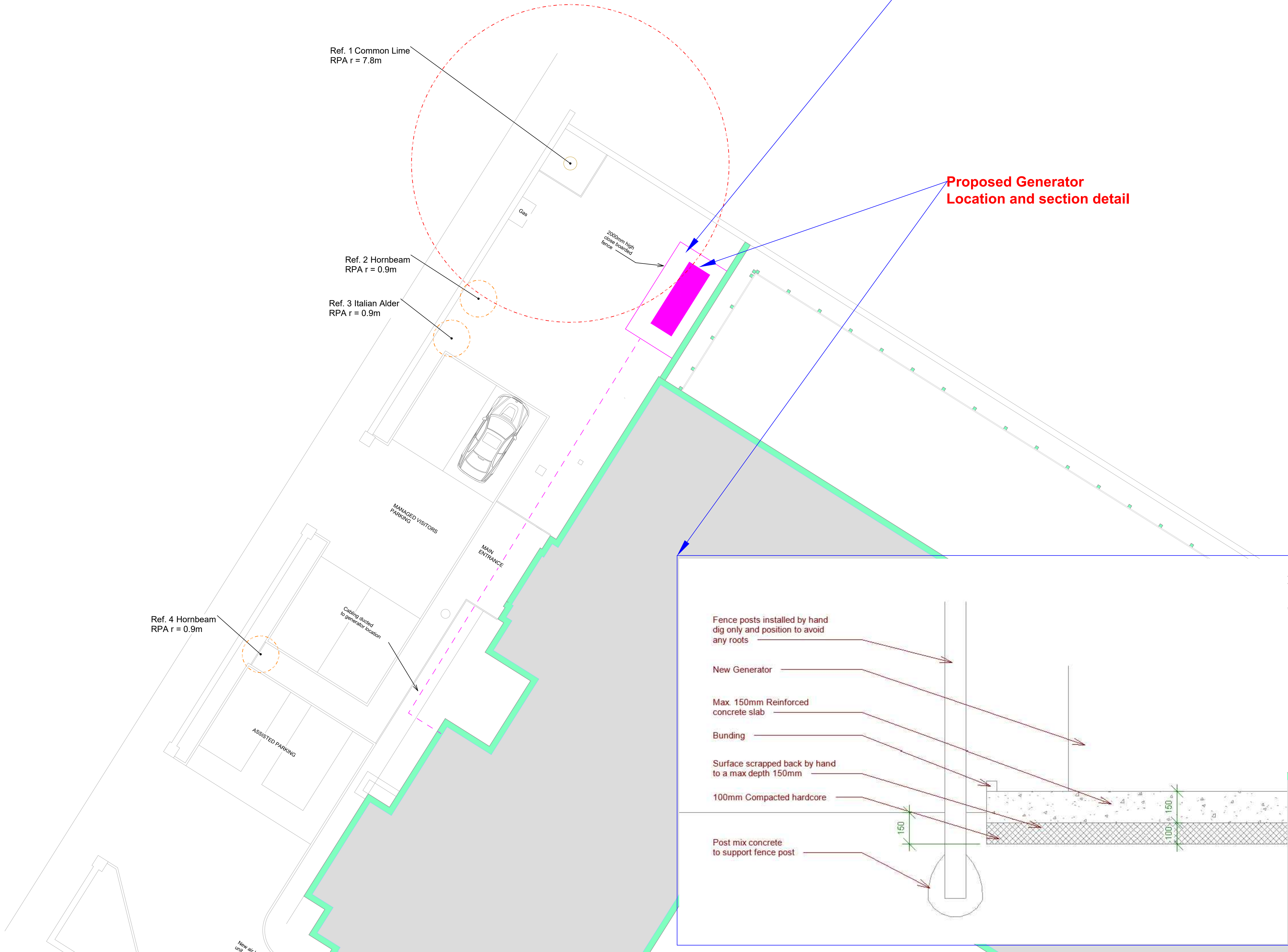
Surveyed Trees

Reference	Species	Common Name	Stem Diameter	Number of Stems	RPA Radius	RPA Area	Category
Ref. 1	Tilia x europaea	Common Lime	0.66m	1 No. Stems	RPA r = 7.8m	191m²	B1/2
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June 2023. Standard Notional RPAs listed

DRAWING MUST BE READ IN COLOUR

- Key:
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 - BS5837 B CLASS TREE. HATCHED CANOPY DENOTES REMOVAL/REPLACEMENT
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 - BS5837 ROOT PROTECTION ZONE FOR TREES THAT ARE OF LOW QUALITY / VALUE AND DO NOT NORMALLY PRESENT CONSTRAINTS TO THE DESIGN & CONSTRUCTION OF THE PROPOSAL
 - PROPOSED FOOTPRINTS



- Notes;
- Proposal shown overlaid onto existing tree Root Protection Area data.
- Drawing accuracy;
- The non-arboricultural parts of this drawing have been produced using spatial data derived from a survey undertaken by others. No responsibility can be taken for incorrect site features. If any arboricultural mistakes are identified, inform the arboriculturist.
 - Unless otherwise stated, do not scale off drawing. Dimensions shown must be used. Any shown dimensions are in meters.
- Tree Survey data;
- Survey plan indicates tree positions, canopy dimensions & BS5837 tree quality categories through colour of canopies.
 - For detailed information on the trees shown, please read the accompanying tree survey schedule.
 - Supplementary information on the surveyed trees may be found in an accompanying arboricultural report.
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BS5837:2012 Calculation of stem diameters & Root Protection Areas:

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Trees with 6+ stems = $\sqrt{(\text{mean stem dia})^2 \times \text{number of stems}} \times \text{Stem dia } 12 = \text{RPA radius}$

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Site:	Ty Grosvenor
Plan Title:	Proposal Plan (Constraints Plan) - RPA
Client:	Elysium Healthcare
Scale:	1:100@A1
Date:	20/6/2023
Issue Status:	ISSUED
Drawing No.	AIA2023-TyGro-002-B-proposed
Revision:	A



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07950 481175
markclews@arborhelp.co.uk

- Notes:
- 1. Unless otherwise stated, all measurements are given in metres
 - 2. RPA = an area of ground surrounding a tree that is required to be protected. Unless otherwise stated, the RPA radius is given, without modification for known site features that will have modified this radius
 - 3. BS5837 category is the tree quality classification system used in the BS standard. The colours indicated are representative of those quality categories & are also reflected in the tree survey plans
 - 4. Tree Work Recommendations on this schedule, is based solely on sound arboricultural management
 - 5. Physiological & structural condition fields are basic fields with more detail sometimes provided in the notes field

Initial tree survey schedule of trees surveyed at Ty Grosvenor,
Wrexham

BS5837:2012 [Calculation](#) of stem diameters & root protection areas (RPA):

Trees with single stems = [Stem dia x 12](#) = RPA radius

Trees with 2 - 5 stems = $\sqrt{(stem\ dia\ 1)^2 + (stem\ dia\ 2)^2 \dots (stem\ dia\ 5)^2}$ = stem dia x 12 = RPA radius.

Trees with 6+ stems = $\sqrt{(mean\ stem\ dia)^2 \times number\ of\ stems}$ = stem dia x 12 = RPA radius

Tree quality & hence values have been based principally on amenity contribution. While other values exist, such as ecological values, these have not been used as the primary factor in determining the surveyed tree values																			
Date	Referen ce	Species	Common Name	Height	Stem Diamete r	Number of stems	RPA Radius	RPA area (in m²)	Canopy NESW	Crown Clearance	First Sig Branch height (m)	First Sig Branch Direction	Age Class	Physiological Condition	Structural Condition	Est. Remaining Contribution	BS5837 Category	Recommendations	Notes
08/06/2023	Ref. 1	Tilia x europaea	Common Lime	16m	0.66m	1 No. Stems	RPA r = 7.8m	191m²	6.4 N 6.3 E 4.9 S 6.3 W	5m	--	N/A	4 - Mature	2 - Good	Good	+40 years Years	B1/2	None	Lapsed pollard at 5-6m. Points appear sound. Prolific basal growth. Of high landscape contribution.
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Site:

Date:

Present:

Induction checklist for tree protection measures		
Task	Accomplished	Amendments required:
1. Tree protection plans present in site offices		
2. Arboricultural method statement present in site offices		
3. Roles & responsibilities of various staff explained		
4. Protective fencing explained		
5. Ground protection explained		
6. Method statement explained		
7. Induction forms signed		
8. Weekly Inspection forms handed to site manager		

Site manager:

Contact Phone:

Contact email:

Induction Form for all Site Personnel:

Site Name:

Date:

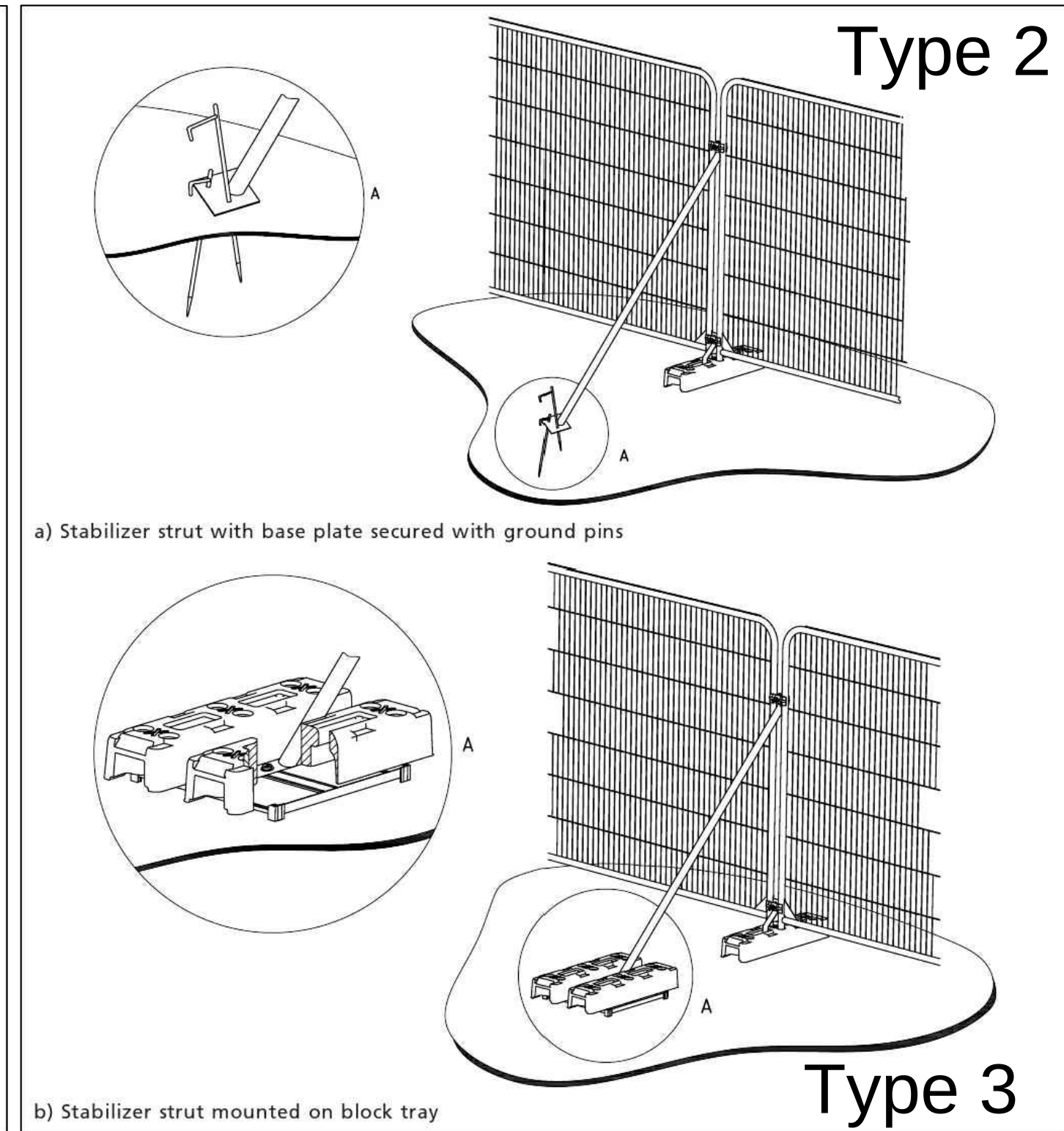
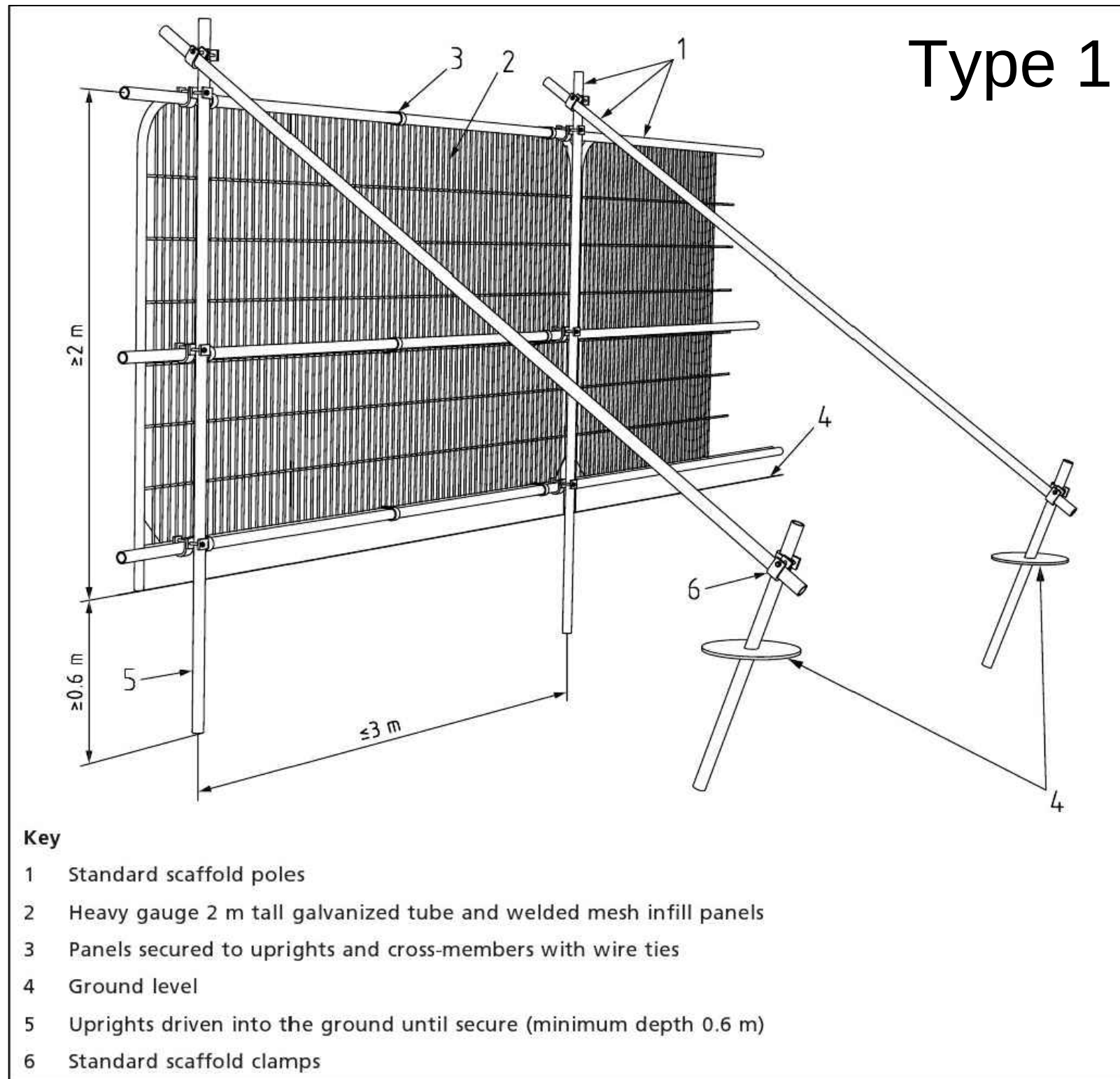
Statement	Tick to confirm statement
I have had explained to me by the Site Manager the key implications of the Arboricultural Method Statement relating to the development at the above site.	
I am aware that the tree protective fencing must remain in its original position and must not be moved without the approval of the appointed Arboricultural Consultant.	
I am aware that any ground protection for the trees must remain in its original position and must not be moved without the approval of the appointed Arboricultural Consultant	
I have had explained to me & I have understood that there are some usual working practices that are prohibited on this site, to protect the retained trees. I have understood where these relate to my role as a contractor	
I understand that certain operations must be supervised by the appointed Arboricultural Consultant and that these operations must not start until the consultant is present or has given approval.	
I confirm that I will bring any concerns about potential damage to trees to the attention of the Site Manager.	
(For Site Manager) I confirm that I have had explained to me my role in ensuring the approved tree protection measures are complied with on site. I understand where my responsibilities are in monitoring the protection measures	

I am aware that I must not cause damage to any of the retained trees on or adjacent to the site. Damage may be caused by direct means (i.e. physical damage caused to roots or the trunk/branches of the tree) or by indirect means (e.g. by fire or toxic materials entering the rooting environment of the tree).

Print Name:

Signature:

Principles to be adopted for protective fencing:





**PROTECTIVE FENCING. THIS
FENCING MUST BE
MAINTAINED IN ACCORDANCE
WITH THE APPROVED PLANS
AND DRAWINGS FOR THIS
DEVELOPMENT.**



**TREE PROTECTION AREA
KEEP OUT !**

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

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

©Arborhelp

Site:

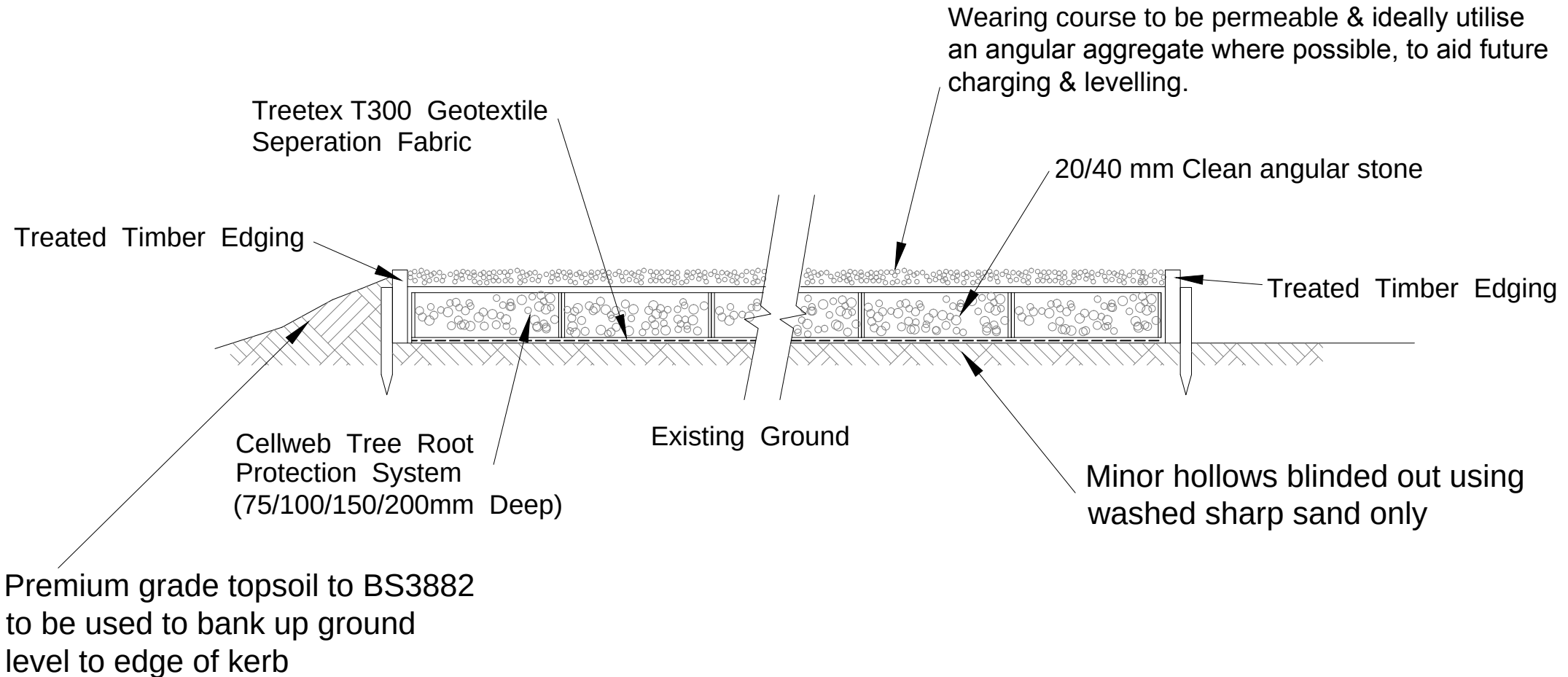
Date:

Site manager:

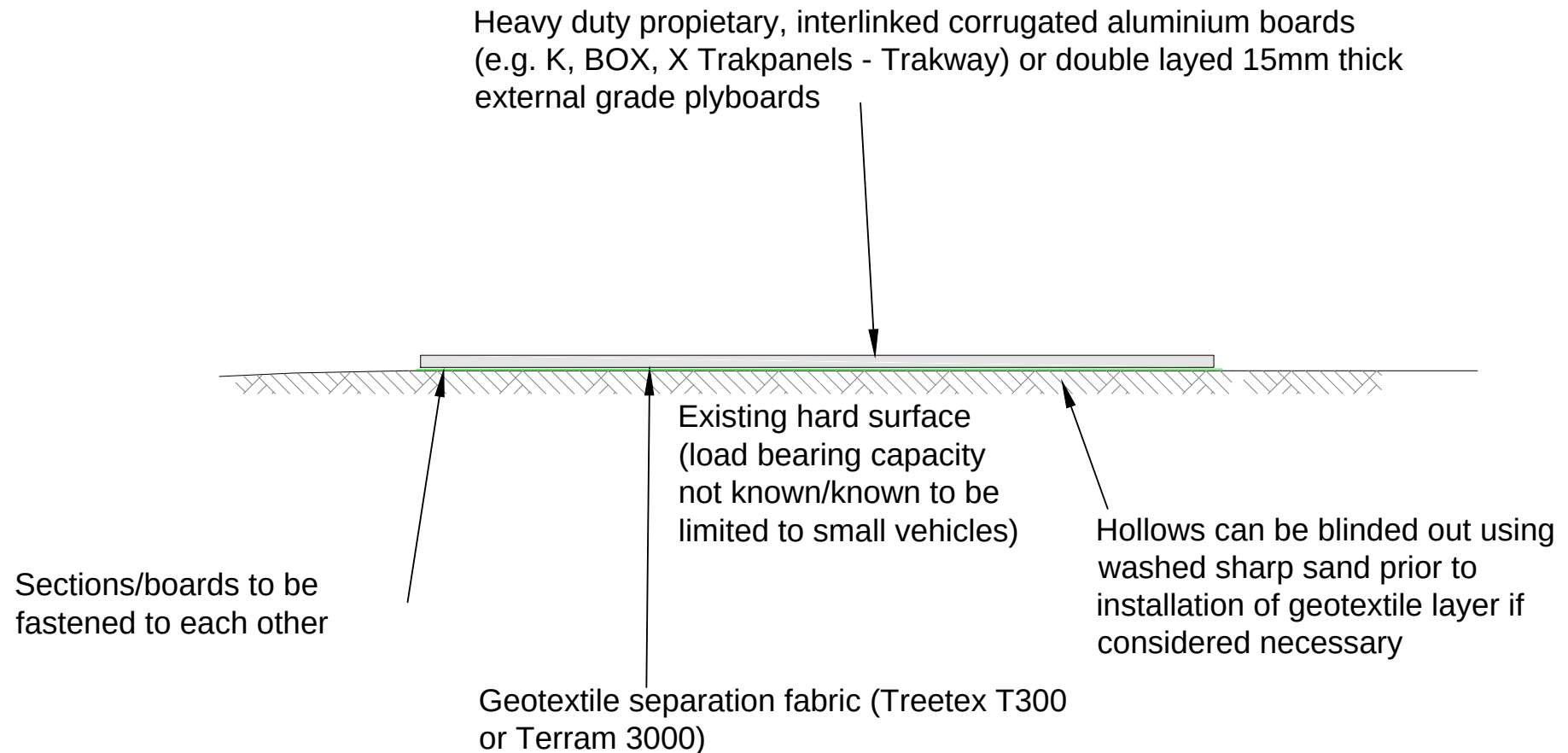
Arboricultural consultant contact details: Mark Clews 07950 481175 / 020 8540 9966 markclews@arborhelp.co.uk

[illegible]

Heavy duty ground protection detail. Can be permanent.



Ground protection for reinforcement of existing tarmac hard surfaces



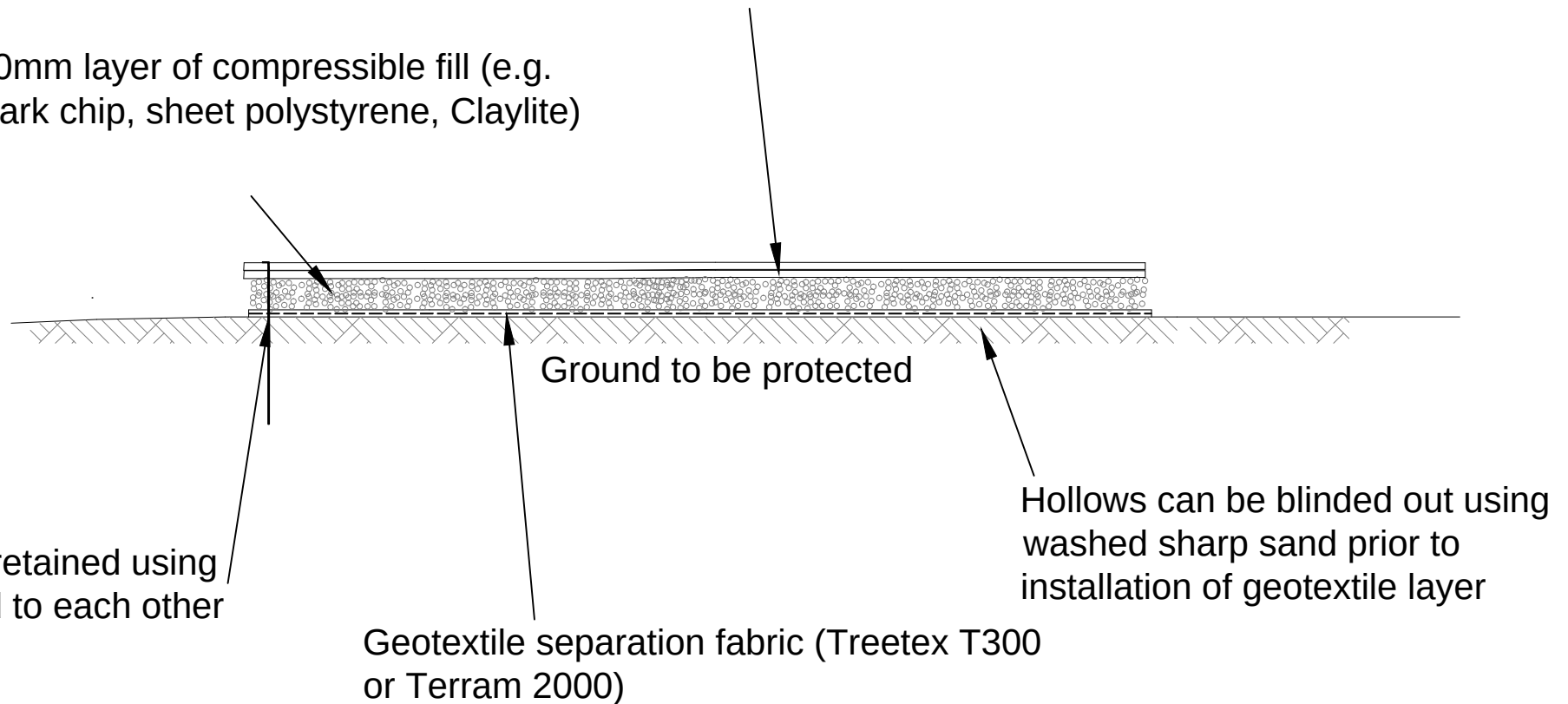
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BS5837 compliant ground protection for tarmac hard surfaces where heavy construction vehicles are anticipated

Light Duty Ground Protection - Ground protection specified can only accept loading up to 2 tonnes

Heavy duty proprietary, interlinked corrugated aluminium boards (e.g. K, BOX, X Trakpanels - Trakway) or 15mm thick plyboards

Minimum 100mm layer of compressible fill (e.g. Woodchip, bark chip, sheet polystyrene, Claylite)



Moderate Duty Ground Protection - Ground protection specified cannot accommodate loading in excess of 3 tonnes

Heavy duty proprietary, interlinked corrugated aluminium boards (e.g. K, BOX, X Trakpanels - Trakway), or double layered & staggered 15mm marine grade ply sheets

Boards to be retained using pins, or bolted to each other

Minimum 150mm layer of compressible fill (e.g. Woodchip, bark chip, sheet polystyrene)

