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Arboricultural Impact Assesment/Statement and Tree Protection Plan for 4 Eton Villas London NW3 2SX.


T1

1. Arboricultural Method Statement and Impact Assessment

1.1 The proposal is to reinstate an existing unstable pillars and wall of property 4 Eton Villas London NW3 2SX. The proposal is to utilise the exiting footprint of the 4 pillars adjacent to T1 Horse Chestnut and remove the central pillar in the entrance with reference to architects drawing number 430/ 111 (see photographs below 001 to 007).

1.2 The following Arboricultural method statement is to provide a protection strategy for the T1 Horse Chestnut imeadiately adjacent identified at the gateway of the property, refer to the following Tree Survey and Plan. The Tree Protection Plan (TPP) shows the areas of proposal A. This specimen is classified as B category 'specimen of high amenity to the local area'. T1 Horse Chestnut is covered by Tree Preservation Order legistration. T1 Horse Chestnut is at the time of inspection in fair arboricultural condition and has not been maintained for some considerable time.

1.3 Area A is within the Root Protection Area (RPA) Shown as a faded blue demarcation of a 12m radius covering the proposal area. T1 Horse Chestnut require caution to be undertaken to maintain these specimen. Protective barriers as specified in BS5837:2012 (Appendix 1) will be erected before construction. Ref TPP marked as a red dashed line.

1.4 The reinstatement of the wall/pillars and foundation will be required to be undertaken by hand only. Utilising the existing depth and profile with no expansion of the excavation, to minimise root loss. It is calculated that if the existing wall footprint is used to reconstruct the wall and pillars there will be minimal root loss and this proposal would not be a detriment to these specimen. This specimen have good vitality and can sustain minimal root loss. The root loss is calcualted to be less than 1% of the total RPA volume. Horse Chestnuts are typical of specimen that have an historical reputation of some botanical resillience physiologically if work are undertaken in carefull manner to limit root loss. The complete removal of the central pillar would be benefit to T1 and reduce stress within the RPA.

1.5 Following demolition of the wall arboricultural inspection of the footing should undertaken to identify requirements needed minimise root loss. In particular the areas near the main root buttrusses. These areas will require 'lintels' to bridge roots larger than 50mm leaving a gap for future growth. Foundation installation may require amendment once the existing wall foundation has been excavated and inspected.

1.6 The existing shed and paving in area A will be removed and replaced by hand. The replacent of the paving will be with a cellular confinement system (http://www.geosyn.co.uk/product/cellweb-tree-root-protection) to limit compaction of the RPA adjacent to T1.(See TPP)

2. *Overground Constraints:*

2.1 All construction activities will avoid damaging tree canopy and adere to the exclusion areas under canopy as marked on the Tree protection Plan.

3. *Underground Constraints*

3.1 Protective boarding will be constructed and all works are to be undertaken by hand only. With reference to Stage 3 on the TPP.

4. The project will include a structured procedure of Arboricultural supervision to be detailed in planning conditions. The following method statements should be available on site and conveyed to construction contractors before works commence. The TPP has staged recommendations which should be adered to without variation unless agreed before.

5.Tree Survey: Schedule

5.1 Method: Visual Tree inspection references, Principles of Tree hazard Assessment and Management by David Lonsdale and The body language of trees by Claus Mattheck and Helge Breoer. The Arboricultural Association guidance note 7 tree surveys a guide to good practice. Lantra award Professional tree inspection. BS5837: 2012 Tree in relation to design, demolition and construction recommendations.

- **Tree Number: T1**
- **Species: Horse Chestnut (Aesculus hippocastanum)**
- **Height: 20m>**
- **Stem diameter: 1000mm**
- **Crown spreads:N7m E7m S7m W7m**
- **Clearance: 4m>**
- **Root Protection Radius: 12m**
- **RPA m2 = 482**
- **Age Class: Very Mature**
- **Physiological Condition: Normal, Root and buttrusses directly pushing up wall and pillars (direct damage).**
- **Structural Condition: Normal, old pollard in the past, extensive crown.**
- **Estimate Life expectancy: 50>**
- **BS5837 Category: B**
- **Recommendation: Specimen B category protection required. As detailed in TPP. Remedial pruning required by crown reduction over all by 2m-3m and remove epicormic growth on stem. Reason: To maintain specimen in high risk location reduce the wind sail effect and risk of branch breakage, whilst maintaining amenity value.**

6. Contacts:

Local Authority Arboricultural officer
Site Agent
Appointed arboriculturist

6.1 No contractors have been appointed at this stage. If there is a need to review any of the protection plans/method statements in light of additional requirements identified by contractors, written approval for any such modifications will be obtained from the LPA prior to commencement of any work.

7.Specific Methods to be applied during all operations 4 Eaton Villas London NW3 2SX.

7.1 The methodology of the tree protection measures follows a logical sequence of development events. Variations to the sequence could significantly reduce the efficiency of the tree protection measures. Variations to the proposed development will require input prior to commencement of the variations, from the appointed arboriculturist and/or the LPA Arboricultural officer.

7.2 The LPA will be given notice in writing 5 full working days prior to the date of commencement of development to check all tree protection in place.

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

7.4 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 an arboriculturist prior to commencement of works. Details of the appointed arboriculturist will be forwarded to the LPA.

7.5 A schedule of activities that will require Arboricultural supervision at various stages has been produced. This should form the minimum site attendance by the appointed arboriculturist, as well as the Local Authority tree officer (where relevant).

7.6 Periodic reports, along with supporting evidence, will be submitted to the LPA on the tree protection measures, as well as the results of activities within the RPA.

8. Preliminary tree maintenance. : (TPO and Conservation area requires permission)

Recommendation: Specimen B category protection required. As detailed in TPP. Remedial pruning required by crown reduction over all by 2m-3m and remove epicormic growth on stem. Reason: To maintain specimen in high risk location reduce the wind sail effect and risk of branch breakage, whilst maintaining amenity value.

8.1 Prior to carrying out any tree work, all trees recommended for tree work/removal including their immediately adjacent trees, will be inspected for bird nests (wholly and partially built ones). In the event nests are found, the tree work will not be carried out until the trees are found to be free of the nesting birds & their young. This is a requirement under the Wildlife & Countryside Act 1981 & The Countryside & Rights Of Way Act 2000.

8.2 Should any works become apparent during the construction period. All tree work will be carried out in accordance with **BS3998:2010** and will be carried out without harming T1.

9. Preliminary vegetation control.

9.1 Cut only vegetation necessary construction area directly adjacent to the wall before construction.

10. Preliminary tree protection methods.

Prior to development, the following measures will be carried out:

10.1 All preliminary tree work should be carried out in a way that does not damage the retained trees and/or their rooting mediums and/or their roots.

10.2 **Stage 1 on the TPP**.Protective boarding of the type shown in the protection plan will be placed in the positions indicated on the protection plan. The boarding will be permanently fixed to the ground as shown in the plans, or fixed to a permanent feature. Weatherproof signs will be attached to the boarding, stating their purpose and that they should not be moved.
Stage 2 on the TPP: requires Hessian sacking to be tied comprehensively around the trunk of T1 up to 2.5m.The protective boarding will delimit a construction exclusion zone and will be considered immovable. The positioning and installation of the protective boarding will be supervised by the appointed arboriculturist.

10.3 Remove existing shed and York paving by hand only replace with cellular confinement cellweb to level area on the existing surfaces.

10.4 Prior to commencing work on site, all contractors will be given an induction on the tree protection measures employed during the development project and on the potential consequences of disregarding them (pre-commencement meeting).

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

Stage 3 on the TPP: , demolition of the existing wall will be undertaken carefully by hand only. The reconstruction will be installed within the existing footprint and profile to the same depth on the existing wall/pillars. There will be no expansion of the footing and only in accordance with the engineers drawings.(see section 1.5 above)

The following tree protection measures will be adopted throughout the life of the development:

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

11.2 Protective boarding will be maintained & inspected on a weekly basis by the site manager. Inspections will be recorded on an inspection form.

11.3 All damage to protective boarding 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 appointed Arboricultural consultant, remediation measures carried out.

11.4 No materials and/or plant will be stored within the designated root protection area of any of the trees and/or within the delimited construction exclusion areas. 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.

11.5 The mixing of concrete and mortar will be performed contained, 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.

11.6 There will be no use or movement of any cranes/heavy lifting arms/digger arms and booms of delivery vehicles will be carried out without damage to any part of the retained trees.

11.6 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.

11.7 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.

11.8 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. Changes to the ground levels within RPAs of retained trees will follow the advice of the appointed arboriculturist. The existing wall is to be removed and reconstructed by hand onlyin the same areas and not expanding any excavation.

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

11.10 The positions of all site welfare and storage areas will also be located outside any canopy areas & RPAs of any retained trees.

11.11 No fires will be lit within any RPAs or canopies of retained trees, whichever is the greater

11.12 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 an appointed arboriculturist upon discovery of either.

11.13 If 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 and advice should be sought from the appointed arboriculturist prior to treating them
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12. **Demolition/Preparation:**

Stage 3 on the TPP: demolition of the existing wall will be undertaken carefully by hand only. The reconstruction will be installed within the existing footprint and profile to the same depth on the existing wall. There will be no expansion of the footing and only in accordance with the engineers drawings (see section 1.5 above).

12.1 A pre-commencement site meeting will be carried out by all involved in the construction and the supervising arboriculturist, to clarify tree protection measures.

12.2 Tree protection measures will have been installed prior to any commencement of demolition site preparation.

12.3 No plant machinery will encroach on the RPA of the retained tree, unless the ground is adequately protected & the machinery is incapable of striking the canopy or tree stem. If plant machinery is to encroach on protected RPAs of retained trees, this will be supervised by the appointed arboriculturist.

12.4 The protective boarding in the site (protecting trees), will be retained in situ until landscaping operations are to be undertaken. This will provide additional protection for the Root Protection Areas.

12.5 Debris from any preparation work will not be stored within any RPA of retained trees at any time.

12.6 The tree protection measures will be retained in the positions specified on the Protection Plan.

Structure foundations within RPA:

12.7 If roots are encountered, these will be cut cleanly. Excavations in this area will be supervised by the appointed arboriculturist. **(see section 1.5 above)**

12.8 Impermeable membranes will be used when pouring concrete for foundations, to avoid contamination of the soil and damage to any tree roots by wet cement, particularly within the RPA of T1.

Underground services:

12.9 The excavations for any underground services will be routed outside any RPAs. Underground services be run outside RPAs. 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 diam will, where possible, be cut cleanly and covered. Any substantial roots (larger than 25mm diam), 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

12.10 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. The above will only be applicaple with permission from the LA.

12.11 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.**

13.Landscaping:

13.1 Landscaping operations will commence only when all main construction work has ceased. The protective boarding will be removed immediately prior to commencing these operations.

13.2 No soil lowering will occur within any RPA's.

13.3 The existing soil levels will not be raised within RPAs of retained trees without seeking advice from the appointed Arboricultural consultant.

13.4 Excavations for planting within RPA carried out by hand only down to 600mm. The same will apply for introduction of topsoil, plant transport & mulching.

13.5 All landscaping work within RPA will also be carried out by hand only.

Footpaths/hard surfaces:

13.6 Any exposed roots will be covered with damp Hessian. Debris from the excavation will not be stored in this area but will be immediately removed from the RPA.

13.7 General purpose topsoil to BS3882:2007 will be used to replace the previous hard surface if necessary. N/A

Boundary treatments within RPAs:

13.8 Boundary fences are not proposed to be installed within the RPAs of T1.

14. Post-development tree Care and amelioration

14.1 Once all construction and landscaping activities have been completed, any remaining ground protection/protective boarding will be removed.

14.2 A detailed visual inspection of the retained trees on the site & their RPA, will be carried out, to check for signs of development damage to both the trees and their rooting environment.
Appropriate remedial tree / soil work will then be recommended by an arboriculturist.

14.3 Any damaged branches will be removed or pruned cleanly in line with current good Arboricultural practice (BS3998:2010) and any specific Arboricultural advice. Any other remedial work will also be carried out as and when recommended.

14.4 An annual tree inspection regime will be implemented to monitor the health of the retained and replaced trees for an agreed period after the development project is complete. The appointed arboriculturist will provide reports to the client & the local authority tree officer at agreed times, on the condition of the retained trees and any remediation work recommended.

15. Site Supervision

15.1 BS5837:2012 recommends site supervision at regular intervals as detailed in the TPP and above stages 1,2 and 3. Details to be agreed subject to conditions. **(see section 1.5 above).**

This concludes the method statement.

Kim Gifford
Arboricultural Consultant

Appendix 1

on retained hard surfacing or it is otherwise unfeasible to use ground pins, e.g. due to the presence of underground services, the stabilizer struts should be mounted on a block tray (Figure 3b).

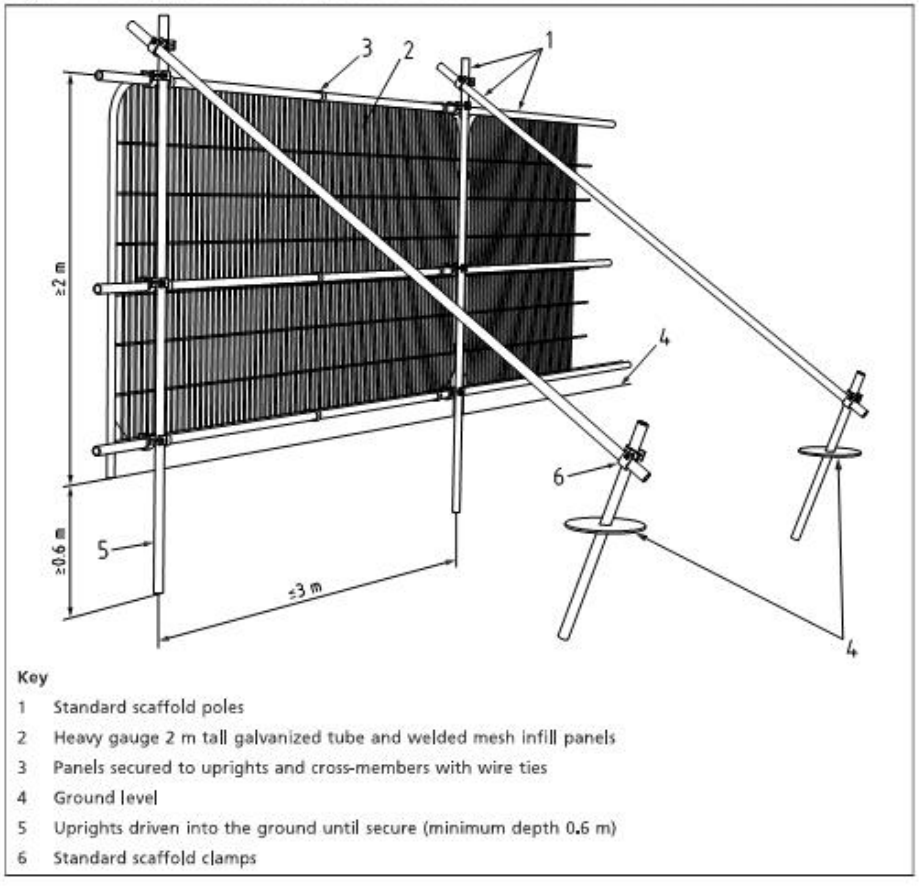
NOTE 1 Examples of configurations for steel mesh perimeter fencing systems are given in BS 1722-18.

NOTE 2 It might be feasible on some sites to use temporary site office buildings as components of the tree protection barriers, provided these can be installed and removed without damaging the retained trees or their rooting environment.

6.2.2.4 All-weather notices should be attached to the barrier with words such as:

"CONSTRUCTION EXCLUSION ZONE – NO ACCESS".

Figure 2 **Default specification for protective barrier**



Key

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

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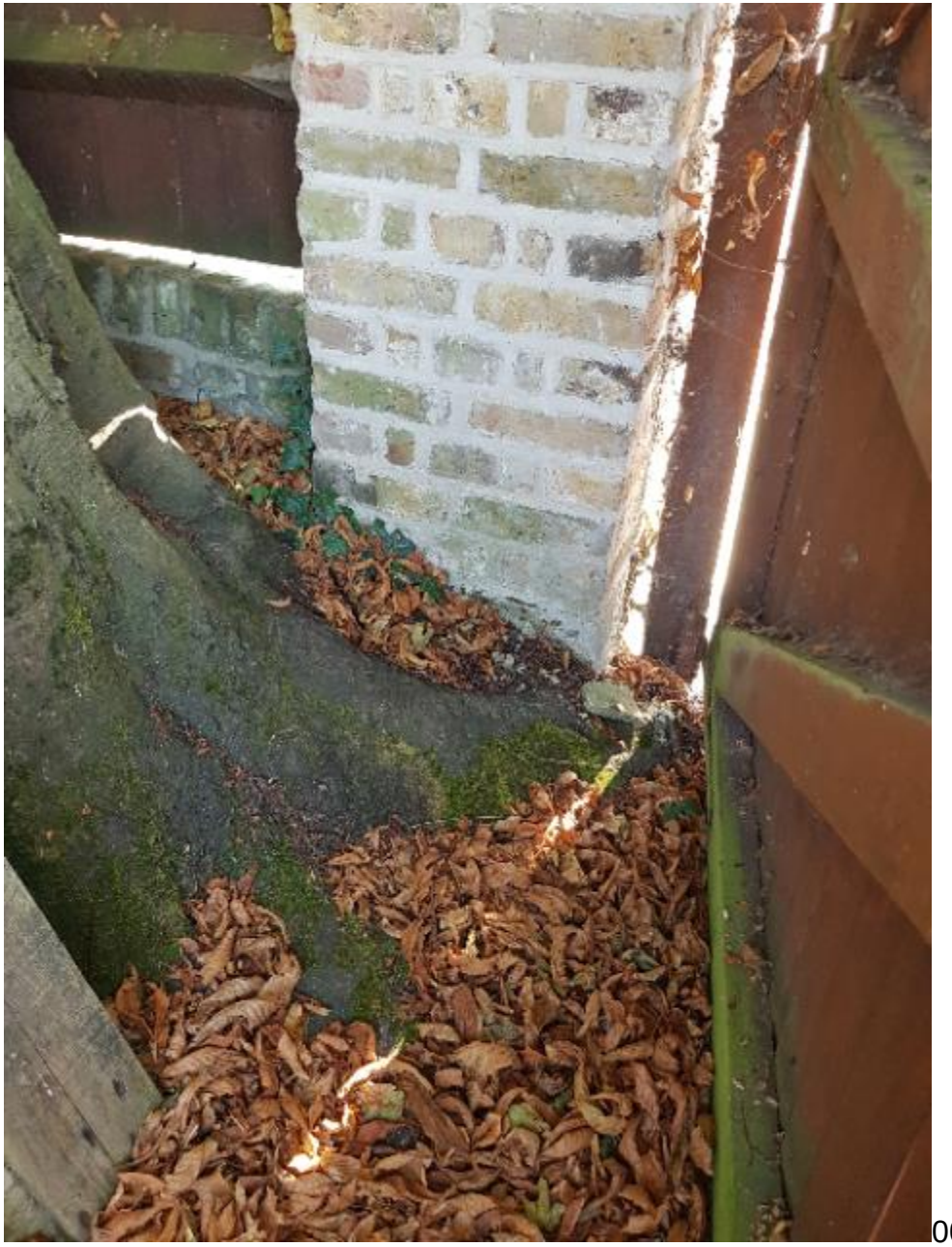

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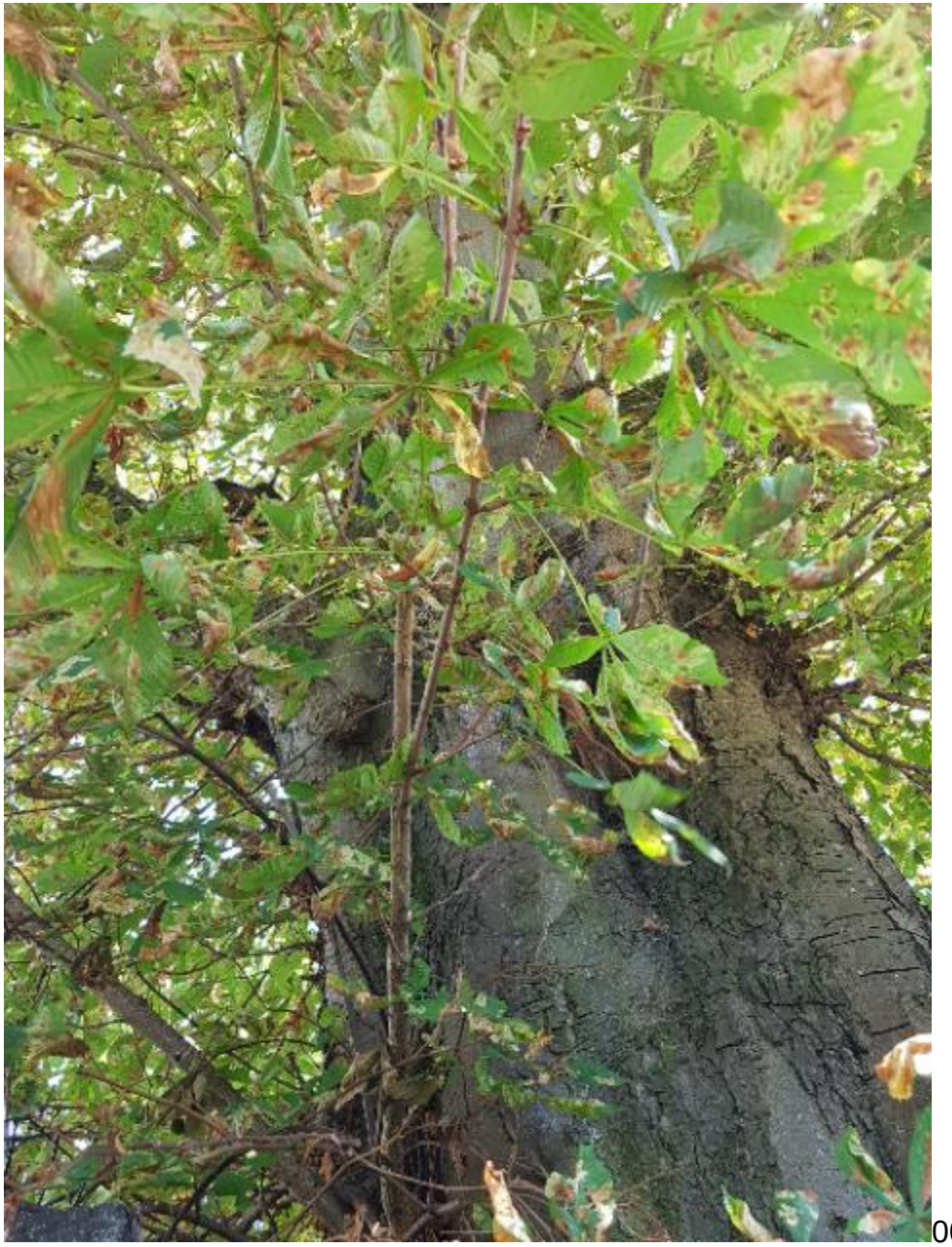
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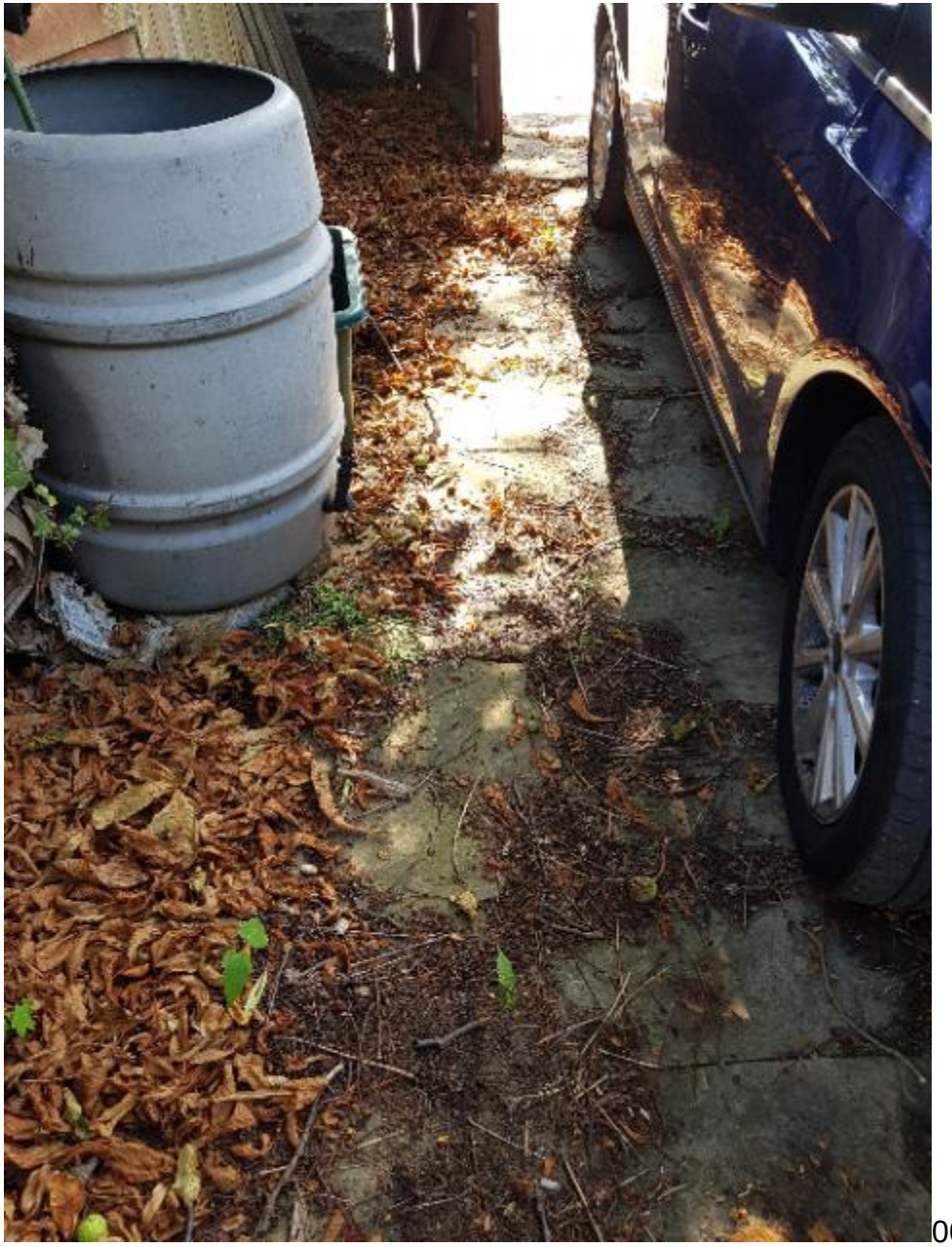
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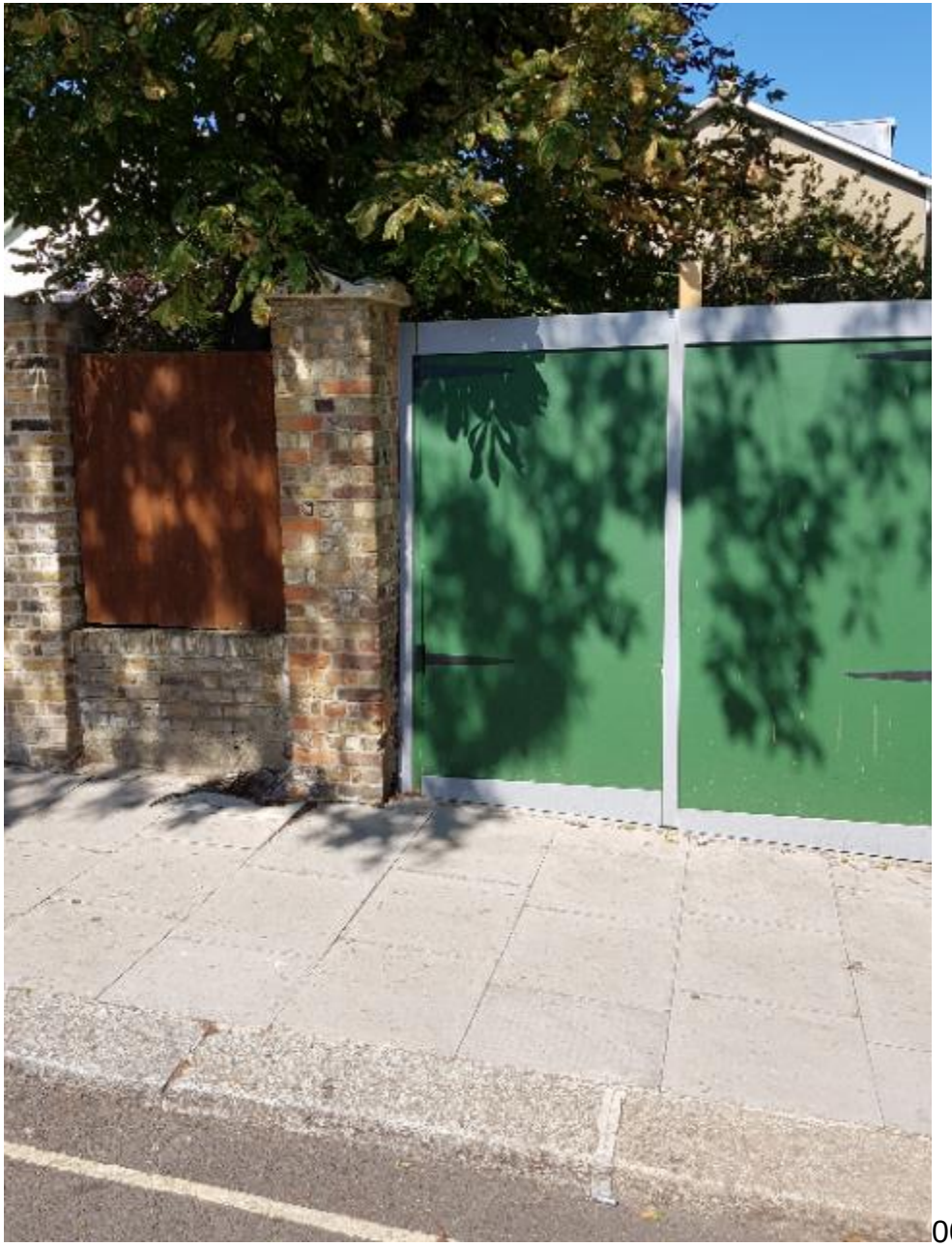

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