



OMC Associates

BS 5837 Arboricultural Report for Development

CLIENT: Kordestani

SITE: 68 Fellows Road, London, NW3 3LJ

OUR REF: 01708D/CJO/0812

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EXECUTIVE SUMMARY

This report comprises an arboricultural impacts assessment to assist a planning application at 68 Fellows Road to construct a garden room at the rear of the garden and an arboricultural method statement and tree protection plan to address any impacts on trees identified. The site comprises a semi-detached property with a rear garden split in half, the rear half belonging to the applicant. One B grade pear tree T1 is noted on site and two C or C/U trees T2 & T3 are noted off-site. The garden room is to be constructed on an existing slab with a small extension of the slab some way from any RPAs. No RPA incursion is noted though building activity within T1's RPA can occur. Services already exist. Minor tipping back of T2 & T3 overhang will be required. Access is via the path to the west of the site and under a relatively low branch of T1. This will be protected with hessian. A methodology addresses this and details a Construction Exclusion zone to safeguard the RPA of T1 that falls within the potential working zones of the builders.

1.0 INTRODUCTION

1.1 Brief

OMC Associates are instructed to provide an arboricultural report to assess the implications on trees/vegetation of a development at 68 Fellows Road and detail a protection scheme to mitigate any impacts on trees. Recommendations are consistent with the most recently revised version of the British Standard on this subject, "Trees in relation to design, demolition and construction - Recommendations", BS 5837 (2012).

These details are provided to assist the planning authority in determining the application. Opinions expressed in this report in relation to the physical or aesthetic quality and value of trees are made on an impartial and non-prejudicial basis, based on observations made during the site survey.

This report incorporates an assessment of the trees in the vicinity of the proposed scheme and those potentially affected by it; an arboricultural impact assessment (AIA) demonstrating how they may be affected by the proposed development and a detailed arboricultural method statement (AMS) and tree protection plan. The report is supplemented by a Tree Survey Plan showing the site as it currently exists, a Tree Constraints Plan (TCP) that illustrates the extents of the tree's RPA and proposed structures within it and a Tree Protection plan that illustrates the protective measures described within the AMS.

1.2 Background, planning proposal and documents

It is proposed to erect a garden room in the rear right hand corner of the garden. It will be sited on the existing concrete hardstanding which will be extended to match the proposed footprint of the garden room.

The existing shed is to be retained.

1.3 Site Description

The site comprises a large semi detached dwelling that is substantially extended.

To the rear the garden is split in half with the rear half belonging to the applicant and accessed by the flagged path along the right boundary.

This appears to have been recently landscaped and simply comprises sections of concrete hardstanding on the eastern side and a large, flagged area along the rear with an area of grass. There is no vegetation other than the mature black locust which is to be removed and the pear tree T1 located by the entrance to the garden.

Gardens are located to either side and the rear boundary is delineated by the wall of an adjoining building. with no other notable trees noted.



Figure 1 - Site of planning application (Bing)

2.0 TREES

2.1 Trees data

Dimensions relating to height, crown spread (at four cardinal points where considered necessary), girth at 1.5m as well as age class, structural and physiological condition and BS 5837 (2012) category are noted.

The inspection assesses the height of the crown and suitability to develop near to it.

This survey does not include a detailed assessment of the health of the trees, but clear faults are factored into structural and physiological categories.

2.2 Trees and the law

This report does not formally identify whether planning restrictions apply to the trees. We understand, however, that the site is within a Conservation Area.

Please note that no works around trees should be carried out without the approval of the Local Planning Authority (since it is likely to incur large fines) unless planning permission has been granted that indisputably necessitates the removal or pruning back of any of these trees.

Section 197 of the Town & Country Planning Act 1990 states that it shall be the duty of the local planning authority to ensure whenever it is appropriate, that in granting planning permission, "*adequate provision is made, by the imposition of conditions, for the preservation or planting of trees*". Even when no specific legal protection exists, it may be necessary to obtain a felling license from the Forestry Commission if the volume of timber removed exceeds felling license quotas.

The Planning (Listed Buildings and Conservation Areas Act) (1990) in conjunction with English Heritage empowers local authorities to designate areas of special architectural or historical interest as 'Conservation Areas', to preserve their character and appearance. Trees can form an intrinsic part of the character and appearance of such areas and the Act prohibits any works to trees within them with a stem diameter measuring in excess of 75mm at a height of 1.5 metres from ground level.

Section 15 of the National Planning Policy Framework adopted in July 2019 states that, "Planning policies and decisions should contribute to and enhance the natural and local environment" and Section 12 states that, "Planning policies and decisions should ensure that developments are.....visually attractive" and "sympathetic to the local landscape".

The Council's Local Plan also contains policies relating to the protection and retention of trees and landscape.

2.3 Tree schedule and summary of trees

Please refer to Appendix A for the tree schedule.

There are only two trees noted in the garden, one of which, the large black locust, is subject of a No Objection Notice to be removed and is not specified in the report but shown on the tree survey plan.

The other tree is a mature pear tree categorized as a B grade specimen on landscape grounds. A sub-dominant stem has been removed resulting in a somewhat asymmetric form with a bias to the south west.

This is more pronounced as a result of a 30° lean in the stem to the west that is historic, as evidenced by the gradual straightening up of the stem higher up.

A flagged path has been laid close to the tree running along the western boundary and under the lower section of crown. This widens immediately to the north of the stem.

The tree appears in reasonable health but the impacts of the large cut where the co-dominant stem was removed and, more significantly, the groundworks may yet to become evident.

Off-site is a disfigured, lime tree T2 that has been severely topped to 3.2m and warrants no more than a U/C classification. This works may be a function of close proximity to the neighbouring building to the rear.

3.0 TREE RELATED SITE CONSTRAINTS – GENERAL

3.1 Constraints to development posed by tree crowns/canopies

Where crown/canopies of trees to be retained overhang a development site, careful assessment of the implications must be made. This may be deemed a constraint where it/they obstruct building work - including erection of scaffolding.

This is not applicable.

3.2 Longer term implications of retained trees on quality of life

New structures and parking spaces close to trees may give rise to long term resentment of the trees through a variety of causes, some real and some perceived, resulting on pressure to remove the trees. These can include loss of ambient light or sunlight, leaf/needle litter and other debris from trees accumulating in gutters and gardens, sticky residues (honeydew) on /surfaces and cars, provision of perches for birds - particularly pigeons - and consequent bird droppings and anxiety stemming from the presence of large trees close dwellings.

Some debris in terms of leaf litter accumulation in gutters from T2 should be anticipated. This would need to be cleared periodically to ensure gutters do not get clogged up.

3.3 Indirect damage (subsidence/heave)

All new buildings must be cognisant of the shrinkability of the ground and ensure foundations are designed in full compliance with Chapter 4.2 of the NHBC guidelines "Building near trees", 1992, to ensure future co-existence with trees and new buildings.

This should also take account of the potential of significant heave related movement should trees be removed close to proposed new structures.

4.0 ARBORICULTURAL IMPLICATIONS ASSESSMENT (AIA)

4.1 Effect of development on trees - General

The objective of the report is to identify and evaluate the extent of direct and indirect damage on existing trees that may arise as a result of the implementation of the proposed development without appropriate guidance. A tree may take a century to reach maturity, but it can be irretrievably damaged in a few minutes often because of a failure to appreciate the vulnerability of trees and particularly the root systems. *Irreparable damage is frequently done to existing trees in the first few days of a contractor's occupation of a site.*

It is important to be aware that the effects of tree damage may not be apparent for some time. There are a multitude of activities that can kill or damage trees on construction sites and there is a need to be mindful of these activities and why they may be so harmful to trees. These are briefly summarized below.

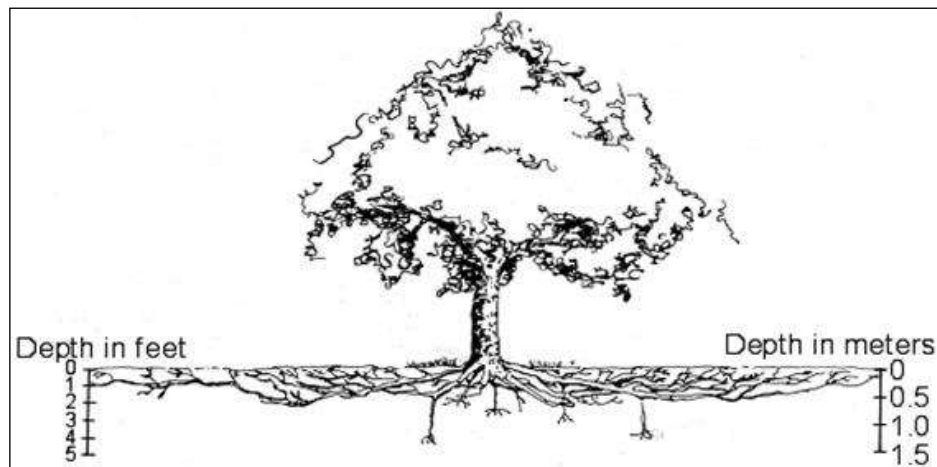


Figure 1 Typical root distribution of tree roots

4.1.1 Direct mechanical damage (*Referred to as D-1 in this report*)

Direct damage to the crown or stem is unlikely to kill a tree unless it is significant but may disfigure it and result in long-term decay setting in. This often occurs as a result of construction activities taking place too close to trees without protection or appropriate pre-construction tree surgery.

4.1.2 Ground compaction (*Referred to as D-2 in this report*)

This is likely to be the most common cause of tree death or decline on a building site. The vast majority of tree roots are located in the upper soil horizons where soil conditions are most favourable for root growth. It is these upper horizons that are most vulnerable to ground compaction. Compaction destroys soil structure, and this prevents soil moisture absorption into the ground and loss of natural aeration. This process deprives tree roots of moisture as well as giving rise to root asphyxiation and is often fatal to trees.

4.1.3 Changes in ground level (*Referred to as D-3 in this report*)

The majority of a tree's root systems are generally located in the upper 0.6m of the ground and the bulk of these roots happen to be very small, delicate and essential feeder roots. Reductions in ground level such as soil stripping can be catastrophic for a tree's health. Conversely increases in ground level can result in root asphyxiation.

4.1.4 Severance of roots by ground works (*Referred to as D-4 in this report*)

Excavation of ground to remove old foundations and hard standing, construction of conventional concrete footings, new hard standing or the installation of services such as water/sewerage pipes, gas/electricity cables, TV/telephone cables using open trenching within the drip-lines of trees severs any roots present, potentially leading to destabilization, decline or death of trees. It May also have implications for local soil hydrology.

4.1.5 Contamination of ground (*Referred to as D-5 in this report*)

Spillage of petrol, diesel, paint removers, wood preservatives and many other toxic liquids regularly used on building sites can kill roots.

4.1.6 Change in ground surface (*Referred to as D-6 in this report*)

Covering surfaces with impermeable materials – especially areas that were previously open ground can prove fatal for tree roots. Trees derive moisture from regular moisture recharge of the ground and nutrients generated by the nutrient cycle from decomposing leaf litter. Impervious surfaces can also prevent gaseous interchange between the ground and the atmosphere creating a build-up of toxic waste gases such as carbon dioxide and a deprivation of oxygen.

4.2 Effect of development on trees specific to this site

4.2.1 Tree Removals

There are no trees to remove to accommodate the garden room.

4.2.2 Facilitation pruning

Minor facilitation pruning will be required to face back the overhang of the elder T3 and the lower overhang of T2 to accommodate the structure. This will be minor and have no adverse impact on health or form of the trees in question.

4.2.4 RPA Encroachment of footprint

An RPA is defined in BSi 5837 (2012) as “the area surrounding a tree that contains sufficient rooting volume to ensure the survival of the tree”.

The 2012 British Standard formula for calculating the RPA has been used in conjunction with prevailing existing site conditions that can affect root morphology and dispositions such as the presence and type of hardstanding, structures and underground apparatus; topography and drainage; tree health and vitality; species type of root severed; disposition of incursion and the soil type and structure to determine likely RPAs. The resultant RPAs are shown at Appendix E.

The British Standard states that incursion "should not exceed 20% of any existing unsurfaced ground within the RPA". This is guidance; though encroachment upon the RPA should be avoided, it can be acceptable in certain conditions and this involves assessment of the tolerance levels of the tree based on a variety of factors.

The RPAs of retained trees have been identified and shown on the tree constraints plan at Appendix E.

The footprint will be placed on an existing concrete slab resulting in no RPA incursion. The extension of the slab to the west is some distance from any RPA.

4.3 Other potential impacts

4.3.1 RPA incursion of underground services

An electrical supply already exists (running along the rear and western boundaries) and no further services are proposed.



Figure 2 - Existing electrical supply

4.3.2 Mechanical damage to low branches

The only access to the site is via the path along the western boundary to the rear of the site and underneath the overhang of T1.

Since a lower limb extends westwards over the path at 1.5m (and rising), the tree is vulnerable to mechanical damage from materials being brought onto site.

Suitable precautions, as detailed in the AMS, will be required to protect the branch from physical damage.

4.3.3 General construction activity within RPAs

Construction activity associated with the proposed works can be severely damaging to trees and include demolition and levelling; movement of heavy plant; mixing of cementitious substances; fires, storage of materials etc. Such activities can be a notable factor in assessing damaging impacts to such a tree populated site.

This can be avoided by the creation of Construction Exclusion Zones (CEZ) and the use of ground protection and can be detailed in an arboricultural method statement, ideally in association with site contractors.

4.4 Issues to be addressed by the AMS:

- Protection of root zones
- Installation of tree protection and ground protection
- Facilitation tree-work
- Protection of overhanging limb
- Detailed arboricultural monitoring

5.0 ARBORICULTURAL METHOD STATEMENT

Successful avoidance of any damage can be achieved through appropriate tree protection details, correct implementation of these details and close liaison with the Council's tree officer and the appointed arboriculturist.

These details and procedures are provided in the arboricultural method statements outlined below and illustrated in the Tree Protection Plan at Appendix F. All key site personnel must fully familiarise themselves and understand this method statement and tree protection plan. A copy of the method statement must be kept on site at all times. The general sequence of events should be as follows:

- All relevant aspects of this method statement must be incorporated into the construction method statement to avoid any conflicts.
- No building work or other activity associated with development can take place until the approved protection measures are in place and secure, and a site meeting between involving the contractor, architect, arboricultural officer and consultant has taken place.
- Details of key site personnel will be submitted to the Council's arboricultural officer prior to the commencement of site works.
- All key site personnel must fully familiarise themselves and understand this method statement and tree protection plans.
- A copy of this method statement must be kept on site at all times. A large (not less than A3 size) copy of the TPP must be placed on the site office notice-board.

The garden room is to be built on an existing slab. Once the CEZ has been erected to protect T1's RPA, access will be via the existing flagged path only. Hessian will be required to protect the overhanging branch of T1 from mechanical damage. No new services will be laid, and no cement or concrete will be mixed within 3m of any RPA. Minor facing back of T2 & T3 overhang will be required.

5.1 Tree work necessitated by the scheme

The western face of T2 & T3 will be tipped back slightly to the boundary to remove any potential obstruction to construction.

All tree work will be carried out in full compliance with BS 3998 (2010) and by suitably skilled contractors.

5.2 Ground protection outside the CEZ but within the RPA

Protection of the ground within RPAs is essential to ensure the potentially harmful effects of construction activity on ground conditions (compaction and the absorption of potentially toxic materials) are avoided. Creation of a Construction Exclusion Zone (CEZ) using protective fencing is the optimum means of protecting Root Protection Areas but where access within RPAs is required, protection of the ground is essential. (See Appendix G for an illustrated example).

In this instance ground guards will be required to mitigate compaction damage resulting from the access required to the site that is not currently hardstanding as shown on the tree constraints plan.

Temporary ground protection must be laid and comply with British Standard Recommendations, as below:

- a) **For pedestrian movements only:** a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g., 100mm depth of woodchip), laid onto a geotextile membrane; or 18mm 2400x1200mm plyboard.
- b) **For pedestrian-operated plant up to a gross weight of 2t:** proprietary, inter-linked ground protection boards placed on top of a compression resistant layer (e.g., 150mm of woodchip), laid onto a geotextile membrane.
- c) **For wheeled or tracked construction traffic exceeding 2t gross weight:** an alternative system (*e.g., proprietary systems of pre-cast reinforced concrete slabs*) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

In this instance it is anticipated that the ground protection around the extension will need to comply with (a) above.

5.3 Construction Exclusion Zone (CEZ)

All damage types can be avoided through the establishment of Construction Exclusion Zones (CEZ) with the use of protective fencing. The use of a CEZ prevents or limits RPA incursion by segregating all trees vulnerable to construction activity.

The positioning of all tree protection fencing is clearly illustrated within the Tree Protection Plan.

The barriers used to secure the CEZ must be installed prior to commencement of any construction activity. Once erected and secured the Exclusion Zone must not under any circumstances be altered or removed without advice from the arboriculturist and/or approval of the local planning authority.

BS 5837:2012 recommends weld mesh (Heras)-type panels secured firmly to a scaffold framework (scaffold clamps are recommended) and braced with diagonal stabilizer struts all secured to the ground with metal pins, see Appendix H.

NOTE: In the event the fencing becomes damaged it must be repaired or replaced as soon as is reasonably practicable to preserve its efficacy.

Tree protection posters as shown at Appendix I should be secured to the fencing to serve as explanation for its presence.

Only once the protective fencing is in place and secured, (as well as any other protection measures detailed below) construction may commence. The fencing will remain in place and secured until such time that all construction is complete, and materials/equipment have been removed from the site.

5.4 Treatment of roots

Where any excavation is carried out within identified RPAs, roots may be encountered or exposed.

In this location the following methodology must be adhered to:

1. Digging shall be cautious, manual and mindful of the potential presence of roots.
2. Upon discovering roots measuring 25mm diameter or greater, preference must be given to carefully moving them to one side rather than severing.
3. No roots greater than 25mm diameter or dense clusters of fine roots must be cut without prior consultation with the appointed arboriculturist; this may be done by way of email or telephone communication.
4. All roots of lesser diameter may be severed but this must be done so cleanly, using sharp secateurs or loppers, preferably back to a side-root. Upon exposure, all roots will immediately be covered with damp, clean, hessian sacking and remain covered for the duration of their exposure. Dampened hessian will be used in the summer months, but dry hessian sacking must be used during winter to protect from rapid temperature changes and prevent from freezing.
5. Prior to backfilling, any hessian wrapping should be removed and retained roots should be surrounded with sharp sand or other granular fill, before soil is replaced. Unwashed builder's sand is not to be used because of its high salt content which is toxic to roots.
6. Where concrete is to be poured for the new foundation, an impermeable membrane must be placed along the exposed face of the foundation trench to prevent contact with and scorching of roots, and to ensure leachates do not contaminate the immediate rooting area in the future.
7. No mixing of concrete must be undertaken within 10 metres of any RPA.

These procedures must be followed and liaison with the arboriculturist be maintained at all times. The arboriculturist must oversee excavation deemed to be in highly sensitive areas. Where areas are deemed less sensitive the arboriculturist need not attend site so long as he/she remains in contact with the builders and can access photos during the excavation period.

5.5 Mixing and use of concrete near trees

Concrete or cementitious (mortar, cement, slurry) washout wastewater is caustic with a pH over 12 and is, therefore, highly toxic to trees and other vegetation.

Where any structures cast from concrete below ground level near to root systems of retained vegetation are required, the incorporation of protection (e.g., sheathing with an impermeable membrane such as heavy-grade polythene sheeting) is extremely important to prevent it coming into contact with roots.

It is vital that concrete is not mixed in the vicinity of trees in order to avoid the risk of it leaching into the soil. Additionally, regardless of the presence of trees, the integrity of the ground must be protected for future planting.

If the concrete is to be mixed on site and not supplied by a mobile pumping truck the use of a bunded area for this purpose is recommended, to contain spillages and runoff, and to protect the integrity of the ground for future landscaping. A proprietary mixing tray would suffice where only small quantities are required.

In any case, no cement/concrete mixing will take place within 3m of the identified RPA of T1.

5.6 Protection from mechanical damage to trees

The only access to the site is via the path along the western boundary to the rear of the site and underneath the overhang of T1. The CEZ will prohibit access onto the grassed area under T1.

Since a lower limb extends westwards over the path at 1.5m (and rising), the tree is vulnerable to mechanical damage from materials being brought onto site.

This limb will be wrapped up over the entirety of the section over the path in four layers of hessian prior to commencement of any activity.

5.7 Additional precautions outside the Construction Exclusion Zone

- All-weather notices should be erected on the barrier with words such as “Exclusion Zone – Not to be moved without appropriate consent”. Copies of such notices are attached at Appendix I.
- Materials that will contaminate the ground such as diesel oil and concrete mixings will not be discharged within the RPA or within 10m of any of the tree stems.
- Notice boards, telephone cables or other services should not be attached to any part of the tree.
- No fires that have the potential for flames to extend to within 5m of any point of the tree are to be lit.

6.0 INSPECTION/MONITORING

6.1 Introduction

Section 5 provides all the details relating to tree protection specific to this development. Critical to its implementation is a clear understanding of when and how the protection is implemented, what action must be taken when there is a breach of the approved protection and how to implement any changes in the approved protection necessitated by unanticipated events/changes in design.

6.2 Site Arboriculturalist

An arboriculturist should be appointed at the outset whose role will be to ensure full compliance of the approved tree protection measures through regular monitoring and maintenance of a progress sheet that shall be signed off by the arboriculturist and site manager (or equivalent) on completion of the development and submitted to the LPA.

6.3 Stage 1 - Pre-commencement meeting

This will involve the arboriculturist, the site manager and other relevant site personnel and optionally the local authority arboricultural officer. He/she must be given sufficient advance warning of the meeting. This meeting could be viewed as a form of induction and will ensure:

1. A full understanding exists of what and where the tree protection comprises - if necessary, the site can be marked out to indicate the positioning of protection.
2. If and when arboricultural supervision is required.
3. Exchange of all relevant contact details and distribution of an arboricultural site monitoring record.
4. That all parties are happy with what is agreed and that it is deemed practical. Any tweaks/changes made at this stage that vary to the approved details must be agreed by the LPA Tree Officer and a means of ensuring this is appropriately recorded with the LPA determined.

There is no reason why the tree protection can't be installed prior to this meeting so long as the opportunity remains for adjusting or improving it according to advice from the site arboriculturist.

6.4 Stage 2 - Monitoring

The arboriculturist will monitor the development through periodic site visits or in accordance with an agreed schedule. Regularity will be determined by the impact of the scheme on trees, the complexity of protection and the significance of trees. The inspection record will be completed and signed off after each visit.

Any discrepancies to the approved, implemented protection shall be highlighted and the site arboriculturist recommended course of action implemented immediately, if necessary, stopping all development until resolved. A re-inspection will be organised to ensure satisfactory resolution.

The site manager will contact the arboriculturist immediately if damage to trees or root zones occurs.

6.5 Stage 3 - Supervision

The arboricultural method statement (AMS) may specify sensitive works within Root Protection Areas that require arboricultural supervision. These will be clearly shown in the AMS. The site manager will contact the site arboriculturist when this is ready to be carried out.

This will be required during the groundworks necessary for the extended hardstanding into existing RPAs.

6.6 Stage 4 - Completion

On completion of all works on site, the site arboriculturist will be called to site to carry out a final inspection of the trees and the integrity of the RPAs. A Record of Completion will be signed by the site arboriculturist and the site manager and submitted to the LPA for discharge or complete discharge of outstanding conditions.

This will not be completed where damage to trees or RPAs is noted at this final inspection until remedial measures as agreed between the site arboriculturist and the LPA Arboricultural Officer are fully implemented.

7.0 SEQUENCE OF EVENTS

7.1 Phases of tree protection

All key site personnel must fully familiarise themselves and understand this method statement and tree protection plan. A copy of the method statement must be kept at all times on site. A large (not less than A3 size) copy of the TPP must be placed on the site office notice-board. The general sequence of events should be as follows:

- Stage 1: Pre-commencement site meeting involving the site manager/foreman and arboriculturist. The local authority arboricultural officer must also be notified of this meeting in good time to allow the opportunity for he/she to attend. Mark out positions for protection and discuss all tree protection issues.
- Stage 2: Install protective fencing, ground protection and attach hessian to low branches and inspect.
- Stage 3: Vegetation management.
- Stage 4: Construction of garden room
- Stage 5: Removal of all tree protection

7.2 Arboriculturist involvement

The arboriculturist will monitor the development through periodic site visits or in accordance with an agreed schedule. Regularity will be determined by the impact of the scheme on trees, the complexity of protection and the significance of trees. The inspection record will be completed and signed off after each visit.

Any discrepancies to the approved, implemented protection shall be highlighted and the site arboriculturist recommended course of action implemented immediately, if necessary, stopping all development until resolved. A re-inspection will be organised to ensure satisfactory resolution.

The site manager will contact the arboriculturist immediately if damage to trees or root zones occurs.

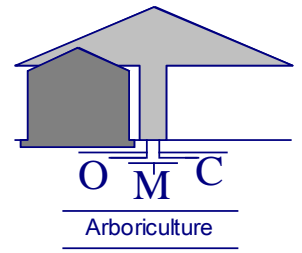
Once all works are complete, arrange post construction meeting to ensure no damage to trees and RPAs. (Organise remedial works as recommended by the arboriculturist where damage noted). Remove temporary protection.



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Appendix A Tree Schedule

ID	SPECIES	HEIGHT (m)	DIA. AT 1.5M (MM)		CROWN RADIUS	WIND US		AGE CLASS	SULE	CONDITION STRUCTURAL	CONDITION PHYSIOLOGICAL	RPA RADIUS (m)	QUALITY CATEGORY (BS:5837)	SPACE CROWN	BELOW CROWN	TREE- WORK	COMMENTS
				N	S	E	W							Y/N/NA	POSITION 1ST BRANCH		
T1	<i>Pyrus edulis</i> Pear	7.7	420	3.5	5.2	3.3	2.3	M	20-40	F	G	5.1	B2	Y	2.8-SE	N	Mature; some asymmetry with crown bias to SW; historical stem lean to west; subject to recent ground works; good landscape value; low overhang over path
T2	<i>Tilia sp.</i> Lime	6.5	350 + (2@ 120)	1	4.3	3.2	3.9	M	20-40	P	P	4.2	C/U2	n/a	n/a	WA	Poor specimen topped to 3.2m; off-site; multi- stemmed minor overhang
T3	<i>Sambucus racemosa</i> Elder	4	2@ 90, 1@ 60	0.5	2.3	1.4	1.9	EM	>40	G	G	0.9.	C2	n/a	n/a	WA	Self-set, off-site; some overhang; good health



OMC Associates

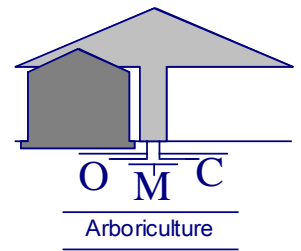
**Appendix B – Key to tree schedule and Cascade Chart explaining
tree quality assessment**

KEY TO TREE SCHEDULE REFERENCES

Prefix:	T – Tree S – Shrub/Climber TG/SG – Group/Hedge of Trees or Shrubs * Estimated		Dia.:	N/A - Tree less than 100mm (for shrubs: young, semi-mature or mature)	
Age Class:	Young:	Generally less than 10 years old and high life expectancy			
	Semi-mature:	Within first 30% of life expectancy and significant growth to be expected			
	Early-mature:	Typically 30-60% of life expectancy, full size almost reached			
	Mature:	Typically 60% or more of life expectancy, full size reached with very gradual, slight further increases in size			
	Veteran	A stage of development where intervention/management may be required to ensure the tree remains safe			
	Over-mature:	Where a tree is so senescent that management is not worthwhile			
Life Expectancy:	How many years before tree is likely to need removing (subject to human intervention)		Crown Radius:	If crown is symmetrical, one dimension is given for the radius followed by "S"	
B.S. Category:	See Appendix 2				
Physiological Condition:	Good:	Healthy tree with no symptoms of significant disease	Structural Condition:	Good:	No significant structural defects
	Fair:	Some disease noted and/or vitality is below what would be expected		Fair:	Defects noted but not sufficient to warrant immediate work
	Poor:	Significant disease noted and/or very low vitality		Poor:	Significant defects. Monitoring and/or remedial works required
	Very Poor:	Tree is in severe decline		Very Poor:	Significant defects requiring immediate work or tree removal
Space Below Crown:	A useful indicator to determine the practicality of developing below the crown. Rather than a measurement which can be misleading and open to interpretation.				
	Y	Potential to develop below the dripline with either no treework or removal of limbs that will not adversely affect the health and appearance of the tree			
	N	No scope to develop below the dripline of the tree			
	N/A	Tree to be removed			
Treework:	This is general since the report is not a tree-work specification. It indicates:		B.S. Category:	A - Those of high quality and value i.e. make a substantial contribution; B - Those of good/moderate quality and value, might be Cat. “A” but slightly impaired C - Those of low quality i.e. adequate to remain until new planting is established or young trees with a stem diameter less than 150mm at 1.5m height U - Those of such poor condition that any existing value would be lost within 10 years	
H	High priority. For trees to be retained and where work required to make safe		1 - Mainly Arboricultural value	2 - Mainly Landscape value	3 - Mainly Ecological value
L	No urgent work required but would benefit from some intervention				
N	No treework identified as necessary in the foreseeable future				
P	Facilitation tree surgery advised				
R	Remove – tree identified to be removed because “U” category tree				
RA	Tree removed to accommodate development				
WA	Treework to accommodate development				
IV	Sever and remove ivy				

BS 5837:2012 Cascade chart for tree quality assessment (Table 1)




Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention				
Category U Those in such condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.	<ul style="list-style-type: none">• Trees that have a serious, irremediable, structural defect, such that their early loss is expected to collapse, including those that will become unviable after removal of other U category 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, immediate, and irreversible overall decline• Trees infected with pathogens of significance to the health and/or stability of other nearby trees (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality. <p>NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve.</p>			DARK RED
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are of particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	LIGHT GREEN
Category B Trees of moderate quality with an estimated contribution of at least 20 years	Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage)	Trees present in numbers, usually growing as 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	Trees with material conservation or other cultural value	MID BLUE
Category C Trees of low quality with an estimated contribution of at least 10 years, or young trees with a stem diameter below 150mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	GREY

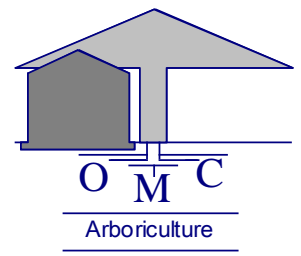


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Appendix C - Photographs

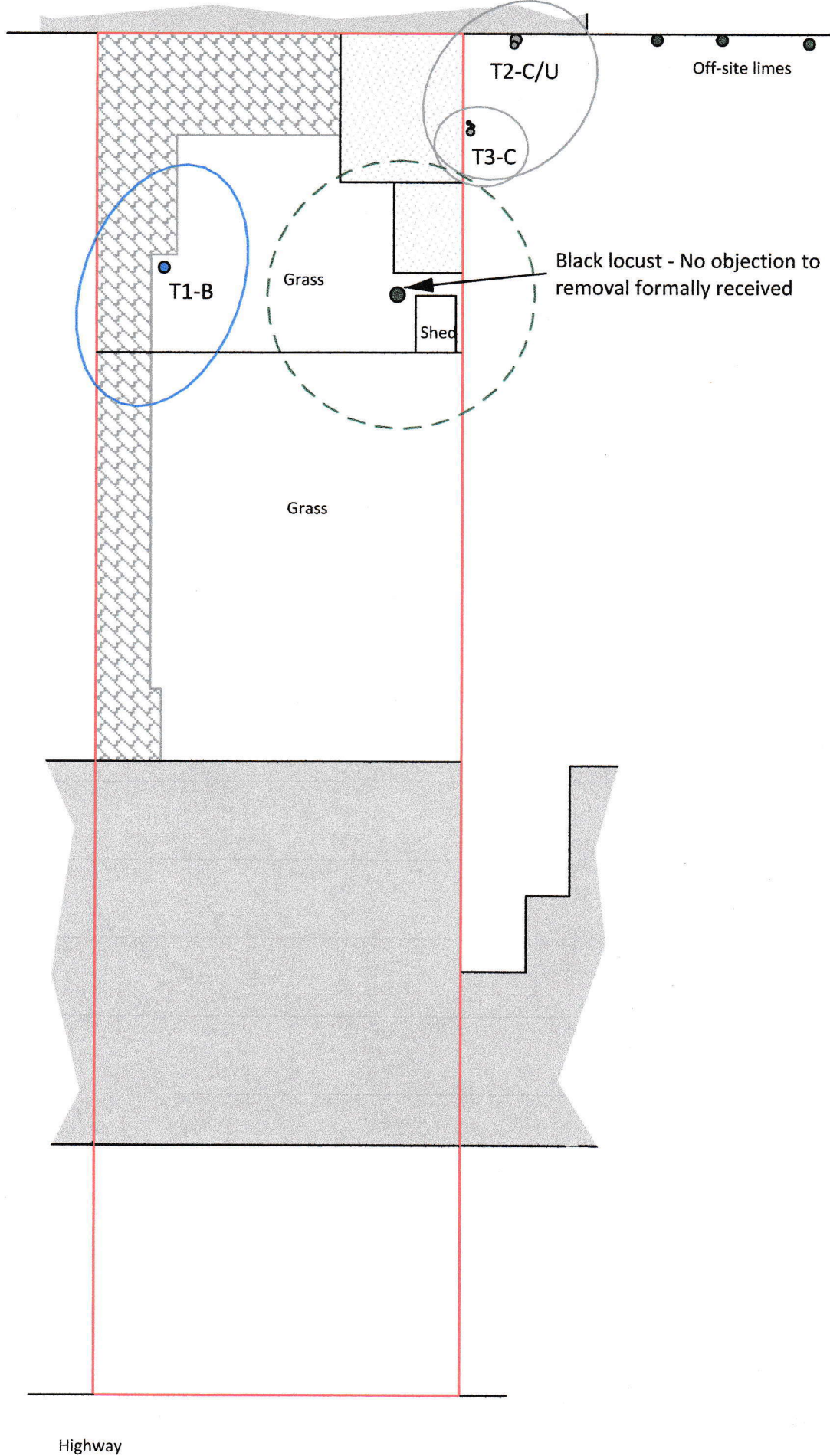
	<p>Photo 1</p> <ul style="list-style-type: none"> • T2 looking north east • T3 in the foreground • Additional off-site limes in the back ground
	<p>Photo 2</p> <ul style="list-style-type: none"> • T2 looking north east
	<p>Photo 3</p> <ul style="list-style-type: none"> • T1 looking west

	<p>Photo 4</p> <ul style="list-style-type: none"> • T1 looking west
	<p>Photo 5</p> <ul style="list-style-type: none"> • Overhang of T1 over path
	<p>Photo 6</p> <ul style="list-style-type: none"> • Overview of rear garden • Mature black locust has permission to be removed







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Appendix D - Tree Survey Plan



Dripline and stem - colour denotes BS 5837 category

-  A Grade
-  B Grade
-  C Grade
-  U Grade

Broken crown line & red text indicates removal

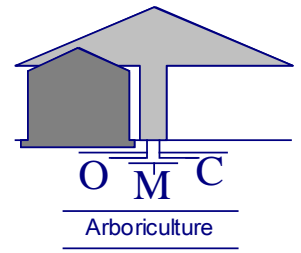


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DATE: Dec 2020
SCALE: 1:100 on A3
REV:



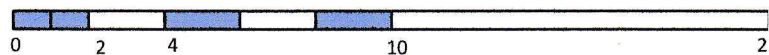
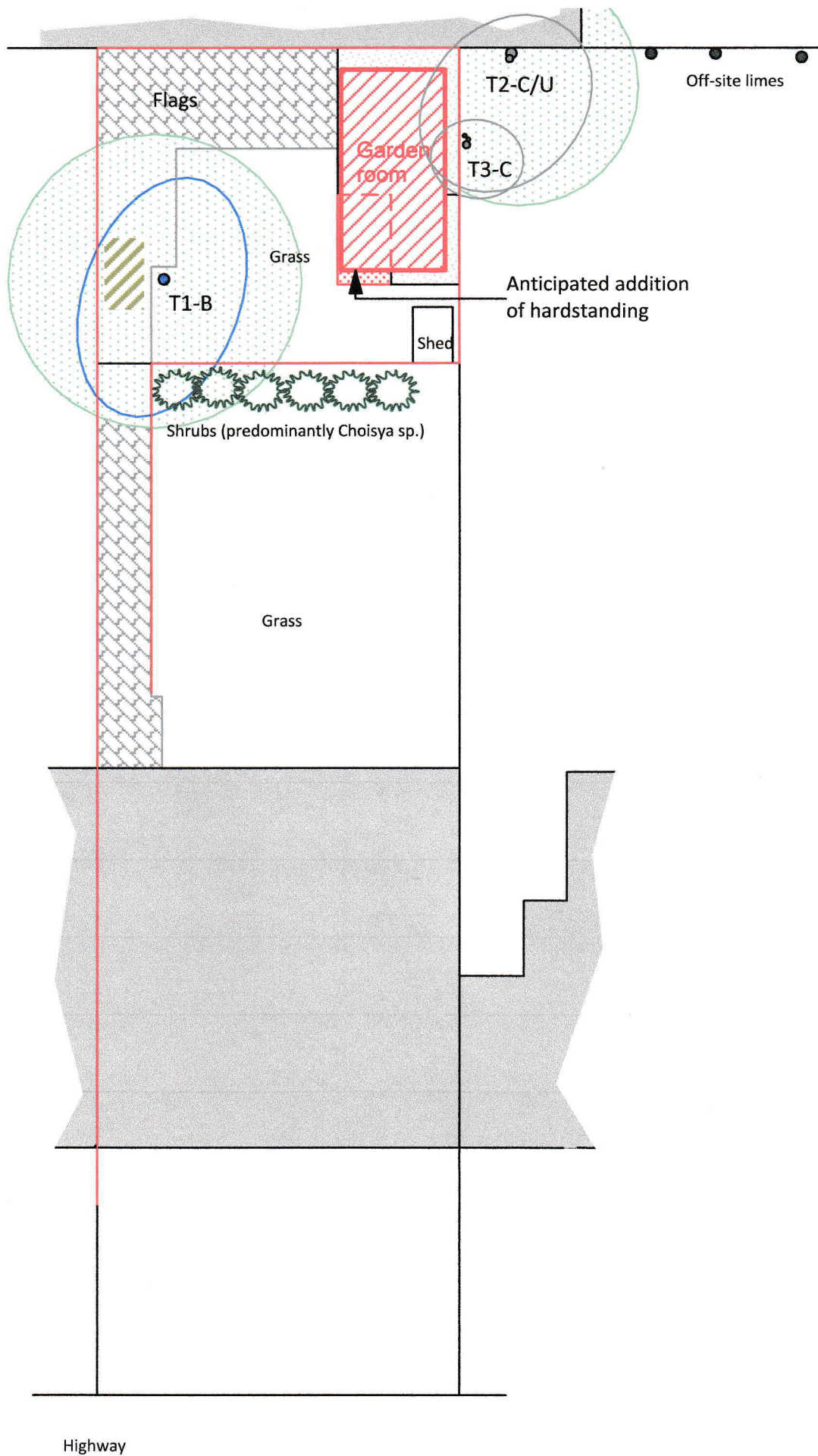
OMC ASSOCIATES
T: 01223 842253
www.omc-associates.co.uk

SITE: 2Flat 2, 68 Fellowes Rd, London, NW3 3LJ
JOB: 1708-sv
TITLE: TREE SURVEY PLAN



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Appendix E - Tree Constraints Plan



Root Protection Area (RPA)



Encroachment of new hardstanding upon RPA



1.6-2m headroom



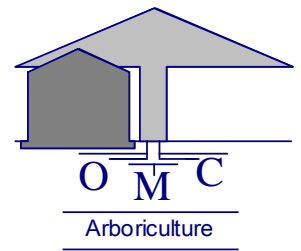
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DATE: Dec 2020
SCALE: 1:100 on A3
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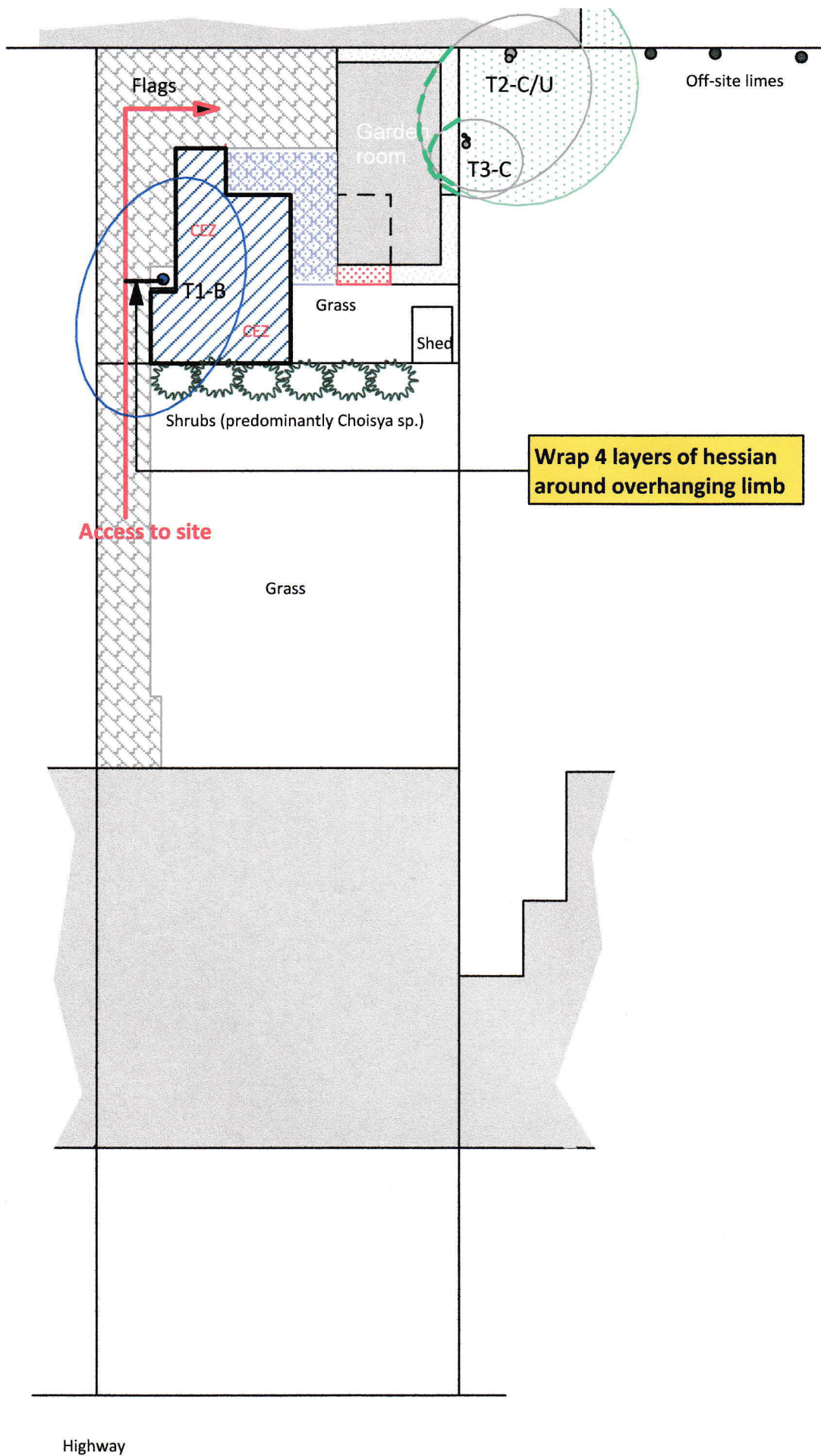
T: 01223 842253
www.omic-associates.co.uk

SITE: 2Flat 2, 68 Fellowes Rd, London, NW3 3LJ
JOB: 1708-tcp
TITLE: TREE CONSTRAINTS PLAN



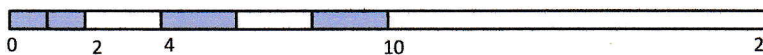
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Appendix F - Tree Protection Plan



Wrap 4 layers of hessian
around overhanging limb

Highway



Construction Exclusion Zone (CEZ) - See section 5.3 of the AMS



Ground protection - See section 5.2 of the AMS



Overhang to be pruned back



CLIENT: Kordestani
DATE: Dec 2020
SCALE: 1:100 on A3
REV:



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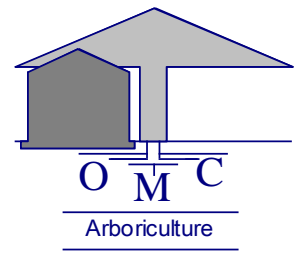
T: 01223 842253

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SITE: 2Flat 2, 68 Fellowes Rd, London, NW3 3LJ


JOB: 1708-tpp

TITLE: TREE PROTECTION PLAN



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Appendix G - Illustrative example of ground protection

*"The best investment we have made in along time.
The money we have saved since the purchase of
our Ground-Guards has been a big bonus."*

Ground-Guards
A division of The Greenist Group

Tel: 0113 267 6000
Fax: 0113 267 2222
Email: info@ground-guards.co.uk
www.ground-guards.co.uk

"When you've got a tough job to do..."



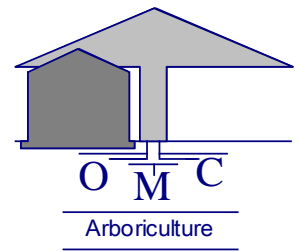
"Ground-Guards will help you do it safely & profitably"



Ground-Guards
A division of The Greenist Group

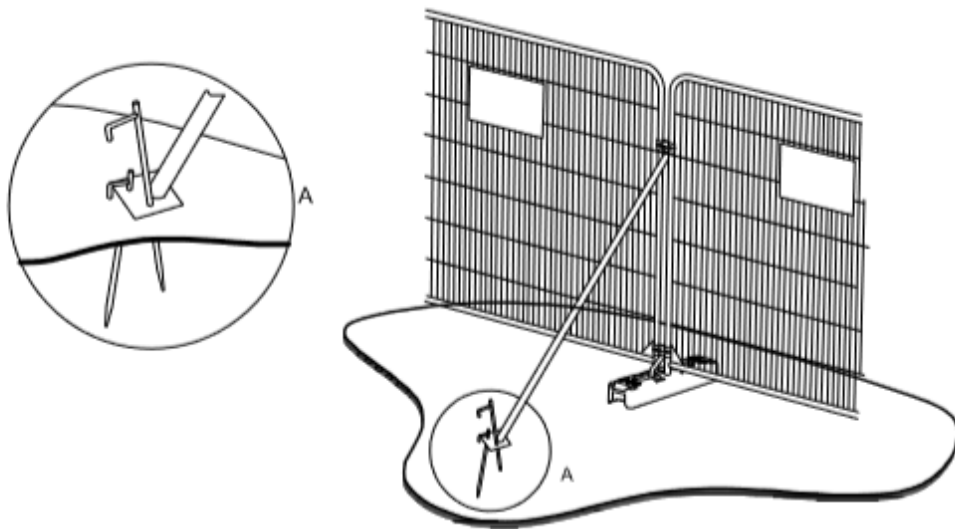


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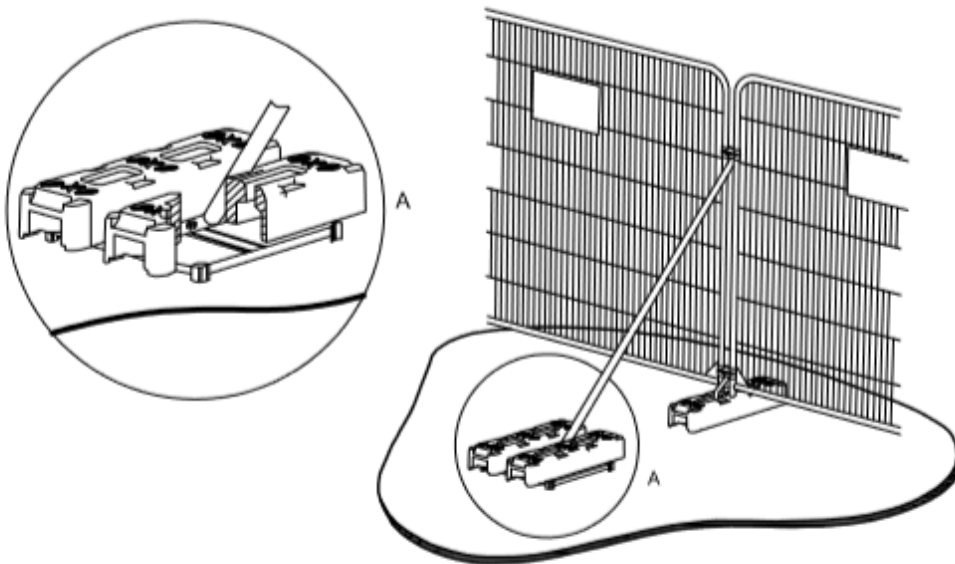


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Appendix H - Illustrative example of protective fencing



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray



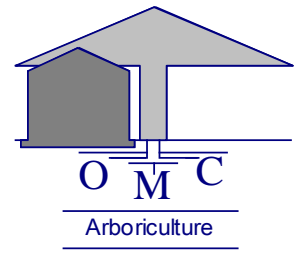


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Appendix I – Information posters to attach to protective fencing



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



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Appendix J - Record of inspection/monitoring

PURPOSE OF VISIT	TIMING	PERSONNEL PRESENT	REMOTE - PHOTO BASED	OBSERVATIONS AND RECOMMENDATIONS	COMPLETE Y/N
1. Appoint arboriculturist to oversee all arboricultural issues on site.	Pre-commencement				
2. On-site tree protection induction with construction team, arboriculturist & tree officer (if attending); mark out tree protection if necessary*	Pre-commencement				
3. Erect tree protection fencing, ground protection as detailed in AMS and shown in the TPP; carry out facilitation pruning*	Pre-commencement				
6. Monitoring site visits by arboriculturist to ensure compliance. Maintain monitoring record	During construction: Visit 1				
	Visit 2				
7. Final, completion inspection and identification of any remedial actions.	Completion of scheme				

* Tree protection may be put in place and inspected at the same time as the site induction/meeting in some circumstances

Project Contacts

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Site Manager:	John Keenan – Rooms Outdoor Ltd (JK)	020 7607 0088	roomsoutdoor@googlemail.com
Arboriculturist:	Christopher Overbeke (CO) (OMC Associates)	01223 842253	chris@omc-associates.co.uk

Notes

Site: 68 Fellows Road, London, NW3 3LJ

Ref: 1708D/CJ/0812

OMC Associates, 28 Shelford Road, Cambridge, CB2 9NA T: 01223 842253