Liam McGough Tree Services, 15a Bedford Road, N22 7AU

LIAM MCGOUGH
TREE SERVICES

BS5837 Arboriculture impact Report

Client: Thomas Enraght-Moony

Site location: 6 Downside crescent, NW3 2AP

Date: 09-03-2021

Prepared by Liam McGough FdSc Arb M ArborA Arb AC

Contents

1.0 Introduction

1.1 Scope & Brief

A survey was carried out at the request of **Thomas Enraght-Moony** to assess the Arboricultural implications of development at **6 Downside crescent, NW3 2AP**

To note the effects that construction might have on trees within the boundary of this site or in surrounding properties. To advise on Protection of Trees and their roots as well as advise conditions of work and best practice to ensure tree protection. Notes on recommended tree work and the safe pruning of roots where granted construction meets Root protection areas.

The safety level of the trees based on their current status was also observed and recorded. The purpose was to identify trees within the property boundary with regards to their risk level to public health and safety, potential ground disturbance if removed and what appropriate trees could be planted to replace any lost trees.

Subsequent works were recommended to alleviate any issues identified regarding root damage and or subsidence, and from a health and safety and property development perspective.

Trees requiring works were categorised as high, medium or low priority based on the methodology stated in section 3.7

The data recorded included, species (common name), height, DBH, crown spread in each direction, age, condition and distance of main stem from the property foundations. Detailed explanations of these criteria are in the methodology section of this report (section 3).

The data is recorded in the Tree Survey Schedule section (section 4) of this report and includes comments identifying any damage to property foundations, faults and hazards with respect to crown form, condition, storm damage and disease. A recommended action was given for each tree. No bore hole and DNA testing has been carried out for this report.

All works recommended should be carried out in accordance with BS 3998:2010 Tree Work - recommendations.

Individual trees are plotted on separate site plans and accompany each respective tree survey schedule (section 4), tree location plan in (Appendix).

1.2 Limitations

All observations were from ground level without detailed inspection and were not inspected from underground excavation or from an aerial perspective.

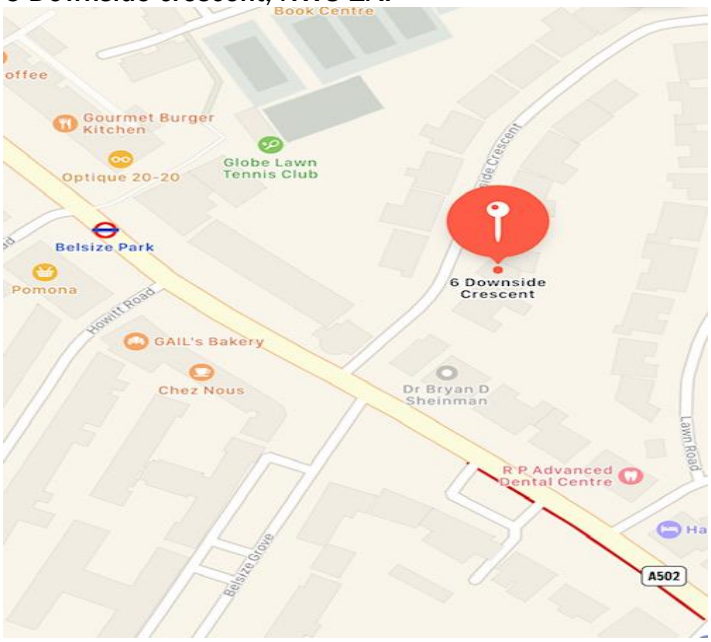
As trees are living organisms their health and condition can change rapidly. Extreme climate issues such as drought and flooding can affect soil shrinkage and overall tree health.
All statements made about the trees were based on the status of the trees at the time of inspection.

No bore hole testing or PICUS testing has been carried out at this site. All observations have been made using only visual indicators.

Trees with extensive ivy cladding were not thoroughly observed due to the difficulty to assess cavities and any hidden defects positioned underneath. With respect to this, the ivy should be severed to restrict its future growth and where applicable, removed to allow a detailed inspection to be carried out.

1.3 Site Location

6 Downside crescent, NW3 2AP



2.0 Statutory Protection

2.1 Tree Protection

A variety of statutory restrictions apply to felling, pruning or damaging of trees with preservation orders (TPO) or within conservation areas (Department for communities and local government, 2014). With exceptions of these restrictions available.

Any trees that require arboricultural works should be checked for any restrictions prior to works commencing.

Applications should be made for trees restricted with a TPO and a six week notification made for works in a conservation area.

Where works are deemed exempt, a submission of a 5 day notification of works should be made in accordance with section 198 (6)(a) of the Town and Country Planning Act 1990.

Aditional information including boundary zones for tree protection is included in the appendix

2.2 Wildlife Protection

As part of the survey tree was inspected from ground level with the use of binoculars for signs of wildlife habitation, in particular birds and bats.

All bats and their roosts are protected by law (The Wildlife and countryside Act 1981 & conservation of Habitats as Species regulations 2010).

Penalties and prosecution for causing damage to bat's or roosts is up to £5,000 per bat and a prison sentence, plus confiscation of vehicles plant and machinery involved.

In the UK all wild birds and their nests are protected by law (The wildlife and Country side Act 1981 & The Countryside Act 2000).

The presence of Bats/roosts or birds nesting will be noted within the survey, where possible all works should be carried out to avoid the bird nesting season.

Prior to any tree works, a visual inspection should be carried out by a qualified person to ensure that there is no loss of protected wildlife habitat.

3.0 Methodology

The individual trees were assessed using Claus Mattheck's methods as stated in his guide to visual tree assessment, with a copy of the updated version at hand for instant reference.
The following data was collected for each tree;

- Species (common name)
- Height
- Age
- DBH
- Crown spread in each direction
- Condition
- Comments
- Action
- Priority

Each tree was given a sequential identification number and were plotted on the accompanying map.

3.1 Height

The height was measured using a clinometer and is expressed in metres (to the nearest metre)

3.2 Age

The age of each tree is expressed using the following terms:

- Y Young
- SM Semi-mature
- EM Early-mature
- M Mature
- OM Over-mature

3.3 DBH

The diameter of the trees' main stems was measured at breast height and is expressed in centimetres.

3.4 Condition

The overall condition of the trees was assessed with regards to its vigour, stem condition, and crown form, and is expressed using the following terms:

- P (Poor)
- F (Fair)
- G (Good)
- D (DEAD)

3.5 Distance from property

This measurement is expressed in metres and was used to evaluate current risk and future risk of subsidence or damage to property from roots.

3.6 Comments

Any signs of subsidence, hazards, defects or signs of disease observed were recorded.

3.7 Action

An action was recommended for each tree to alleviate any hazards/defects identified in the comments section of the data collected.

3.8 Priority

The priority for each action required was based on individual tree locations (e.g. near roads, footpaths or buildings) and the severity of the hazards identified in the comments section. Recommended actions should be undertaken within the following time restraints from the date of the report;

High (H) - as soon as possible within a 3 month limitation.

Medium (M) – within 12 months.

Low (L) – if desirable and/or as part of a long term management plan.

A prioritised work schedule is located in the appendix section of this report along with all accompanying maps, and any supporting photographs.

4.0 Tree Survey Schedule

Tree No.	Species	DBH Cm/m	Height	Age	Crown spread N/S/E/W	Condition	Distance from property	Comments	Action	R.P.A
T1	Apple	0.30	3m	M	2,1,2,2m	good	5m	Care to be taken when excavating near t RPA. Ground protection	No action	3m2
T2	Apple	0.90	5m	m	2,3,1,1m	good	7m	Care to be taken when excavating near RPA. Ground protection	No action	3m2
T3	yew	0.40	2.5m	y	1,0.5,0.5,0.5	good	4m	No Arboricultural implications	No action	3m2
T4	Bay	0.40	3m	sm	1.5m	good	10m	No Arboricultural implications	No action	3m2
T5	willow	1.50	11m	m	4,4,4,3m	fair	20m	Care to be taken when excavating near RPA. Ground protection	No action	3m2
T5	sycamore	1.30	14m	m	2,5,3,5m	good	20m	Care to be taken when excavating near RPA. Ground protection	No action	7m2
G1	shrubs							Shrubs to be removed or relocated		

4.1 Site description

I carried out an accompanied site visit on 11/02/21 . The weather on the day was clear. Site is neat and tidy and free from ground cover.

4.2 Soil assessment

Heavy clay with loamy sand and silt.

5.0 Data Analysis

5.1 Conclusion

The Arboricultural implications with regards this development and the trees in surrounding properties are T1 Apple with a root protection area of 3m2 from the stem covering the diameter of the canopy. I have observed this trees RPA having high potential impact on the proposed extended area. I have calculated that the RPA significantly impacts the new proposed development. As such I recommend the removal of this tree. The table for the measurement calculation can be found in the appendix of this report. It is possible that some roots extend into this area. As such care should be taken when excavation for the extension takes place.

T2 The RPA of this tree is encroached upon by the proposed extension but not more than 15% as such, care should be taken when excavation to limit the pruning of any roots. If roots are to be pruned a qualified Arborist should be onsite to oversee this work.

T3 is very small and although close has no impact on the development, to retain this tree it could be left in situ or relocated to a favourable location.

T5 and 6 will have an impact on the development of the garden room. As discussed with the planner the proposed method would be to excavate and add concrete to select places (piles and ground beams) instead of an overall foundation. Extra care should be taken when selecting the location of the holes and moved if inline with large roots. If smear roots are to be cut to accommodate this, a qualified Arborist should be insite to make sure the root pruning is done appropriately.

The RPA on all trees in and around site should be protected with fencing and ground protection for plant machinery.

Some small shrubs have been recommended to remove, however if possible, it would be good practice to relocate.

I have added several conditions that should be followed.

No building operations, site preparation or the delivery of materials to the site other than internal works shall commence until a tree protection strategy, including a tree protection plan and arboricultural method statement (in accordance with the BS 5837:2012 standard), have been submitted to and approved in writing by the Local Planning Authority. The protection measures recommended in the approved tree protection strategy shall be implemented prior to the commencement of building operations, site preparation or delivery materials and remain in position until the practical completion of the development.

Reason: To safeguard trees and the character of the area. A pre-commencement condition is necessary in order to ensure that potential harm is minimised before development reaches an advanced stage.

No development, demolition, clearance or preparatory operations including excavation with the exception of internal works, shall commence within the root protection areas shown on the Tree Protection Plan approved in relation to Conditions.

Reason: To ensure surfacing works within root protection areas do not have an adverse impact on the nearby retained natural features.

No tree works (including pruning and / or felling) shall be undertaken in connection with the development hereby approved until a detailed scheme of facilitation tree works has been submitted to, and approved in writing by the Local Planning Authority. The tree works shall be undertaken in accordance with the approved details.

Reason: To ensure any required tree works do not cause damage to the retained trees and to protect and to enhance the visual amenity, character and appearance of the site.

6.0 Arboricultural method statement

6.1 Generally

Development can harm trees if not carried out carefully. Tree's crowns and trunks can be damaged by machinery or scorched by fire or chemicals. Trees roots can be asphyxiated and die if the rooting zone becomes compacted and the soil structure damaged. This can happen very easily, particularly on clay soils, even with the passage of light vehicles. Tree roots can be damaged by raising or lowering the ground level. In some cases it can take several years for the damage to become apparent. This report details how the approved development will take place whilst ensuring that the trees shown for retention can be protected, and for the protection of the soil in the areas for new planting.

6.1.1 Fires: Fires on site should be avoided if possible. If unavoidable, they should be situated far enough so that there is no risk of damage to the trees, taking into consideration the wind direction.

6.1.2 Site and fuel storage, cement mixing and washing points: All site storage areas, cement mixing and washing points for equipment and vehicles and fuel storage areas should be outside root protection areas unless otherwise agreed with the Local Planning Authority. No discharge of potential contaminants should occur within 10m of a retained tree stem or where there is a risk of run off into Root Protection Areas.

6.1.3 Temporary buildings for site use: Site cabins, trailers and other temporary buildings can sometimes be used in root protection area if consent is agreed by the local planning authority. This can be very useful if there is a robust existing hard surfacing in place. The method for installing the buildings, and assessment of whether ground protection is needed is to be agreed with the Arboriculturist and specified prior to installation.

6.1.4 Protection of tree canopies: Piling rigs and cranes are often used close to trees. Work must be carefully planned so that there is sufficient room to avoid hitting the canopy during transportation or operation. Arboricultural supervision may be required, however it is the responsibility of the contractor to assess and plan the work. Any access facilitation pruning required is detailed in the tree surgery schedule.

7.0 Glossary of Terms & Definitions

Amenity- the pleasantness or attractiveness of a place.

Asymmetrical crown- unbalanced, one-sided.

Cavity- hole within a stem/branch of a tree, caused by decay or damage.

Crotch/fork/ union - region formed by a junction of two branches, or stem and branch.
Crown- overall branch and foliage cover.

Deadwood- dead branches within the crown of a tree. <30mm diameter classified as minor deadwood, >30mm major deadwood.
Dieback- ends of branches with no leaf coverage, sign of decline.

Early-mature- a tree that has not reached maturity but is deemed to be 2/3 the way through its life expectancy.

Epicormic- shoot growth from dormant or adventitious buds on main stems or branches.

Fastigiate- Upright crown form.

Good form- good crown shape and size expectant of specific species characteristics.

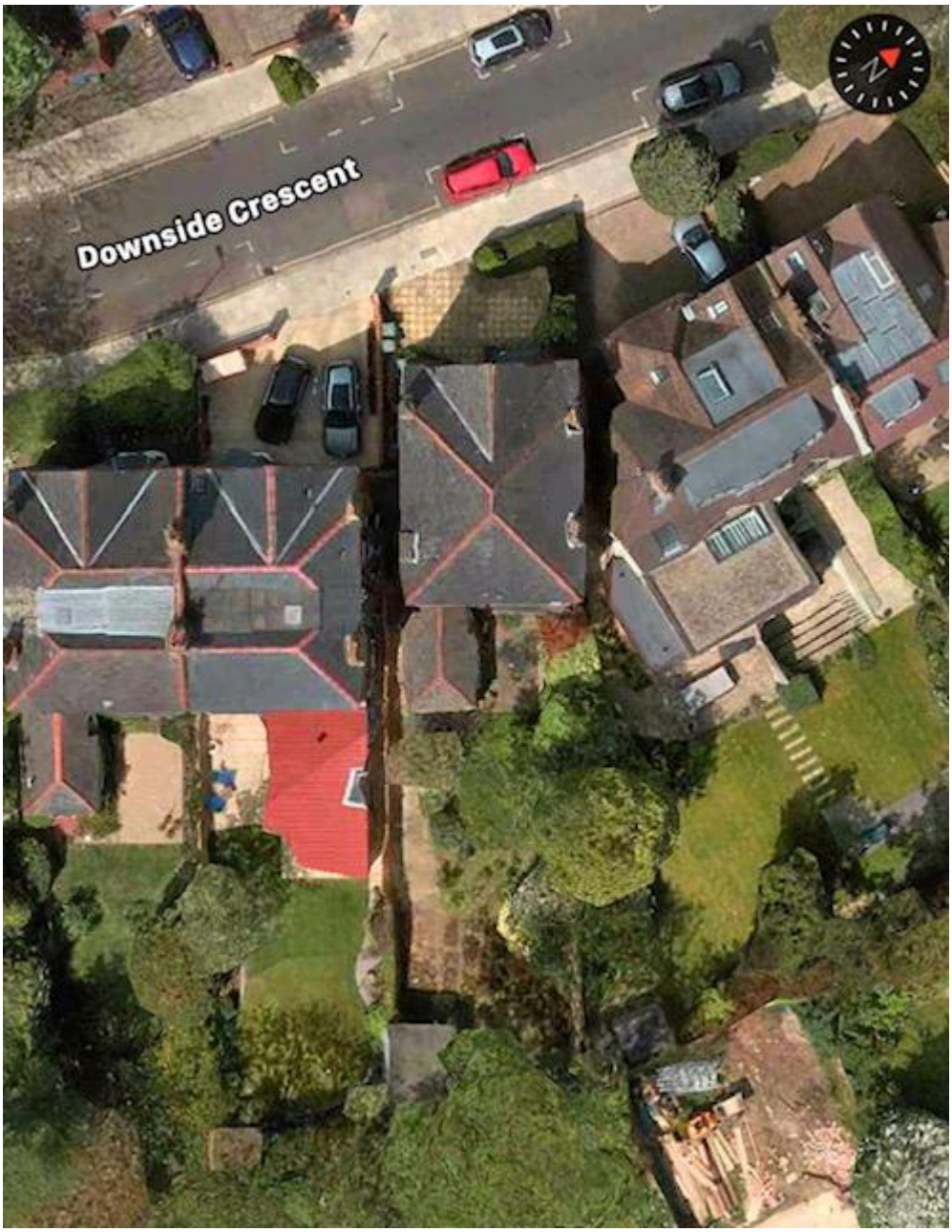
Over–mature- a tree that has exceeded its life expectancy.

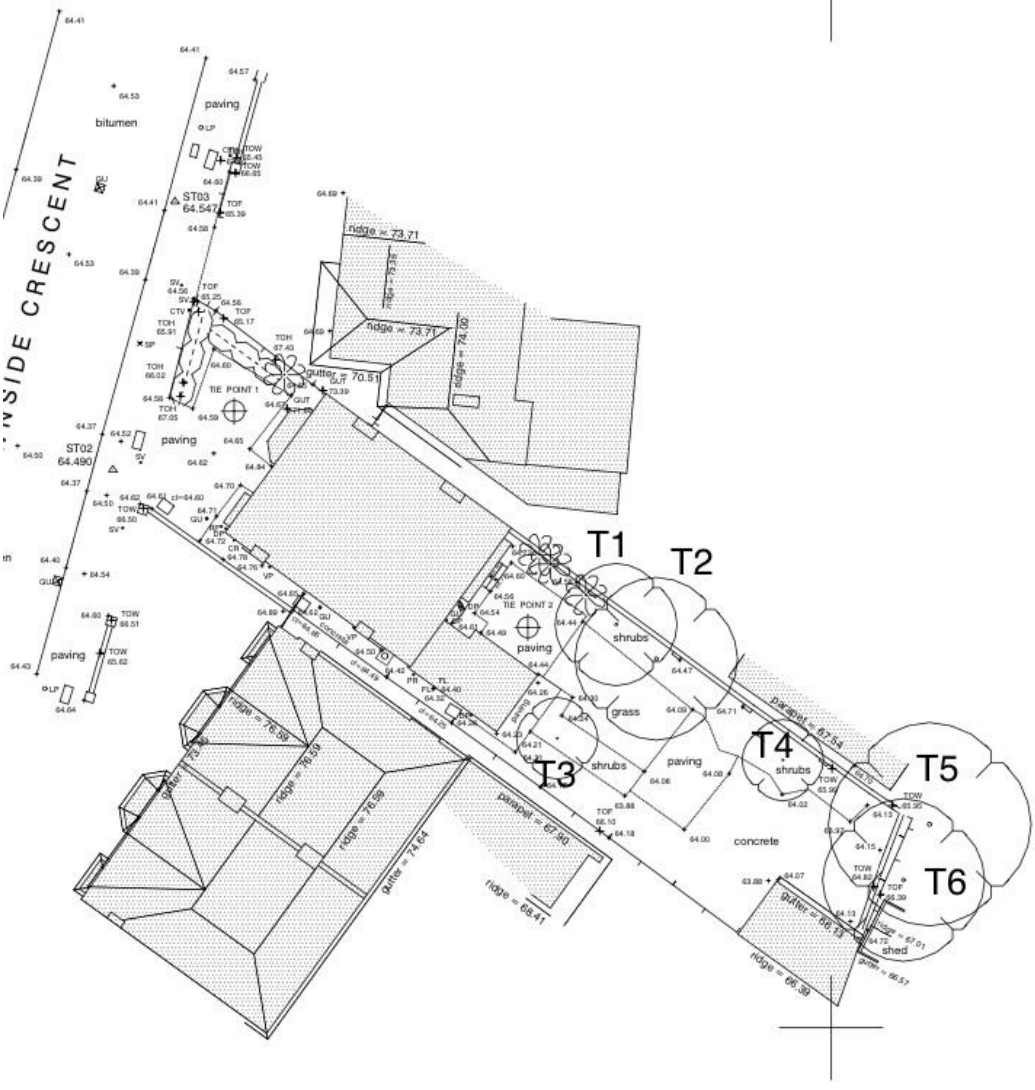
Mature- a tree that has reached the final third of its life stage.

Stem- above ground structure that supports the branches of a tree.

Vigour- physical strength and health of a tree

Appendix

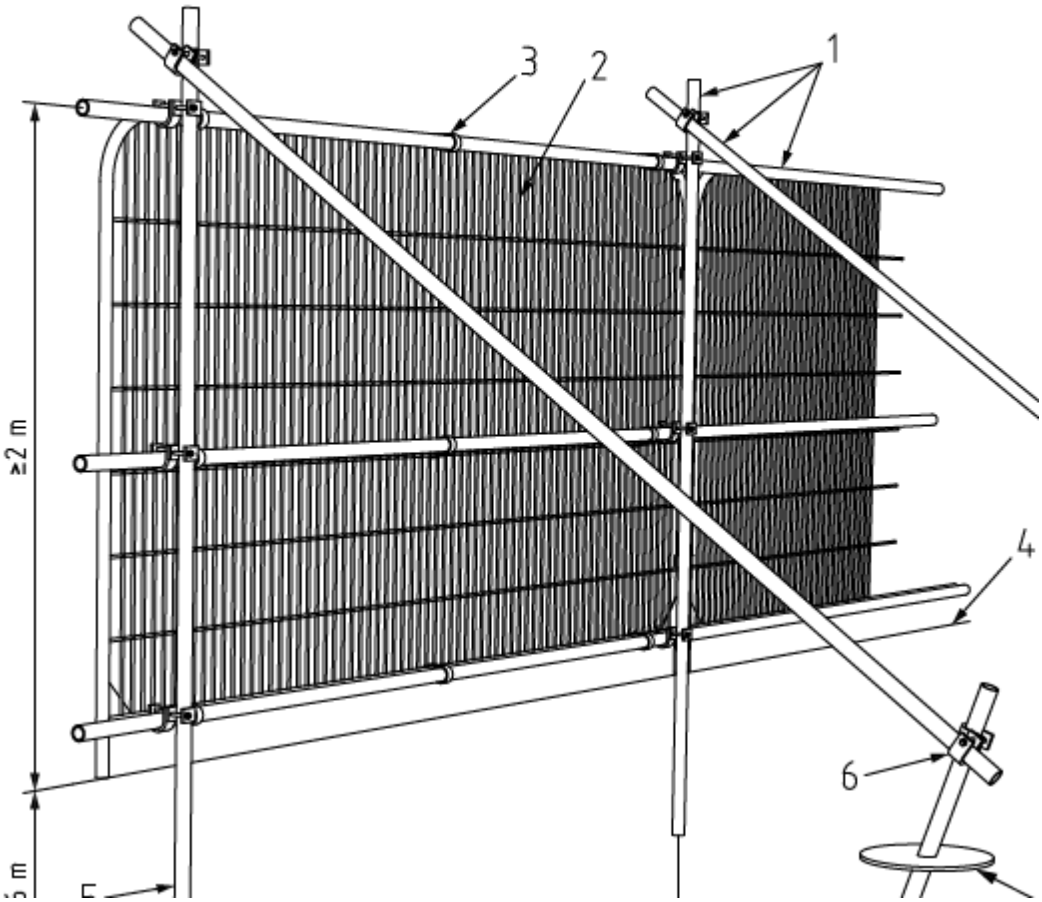

Downside Crescent
N

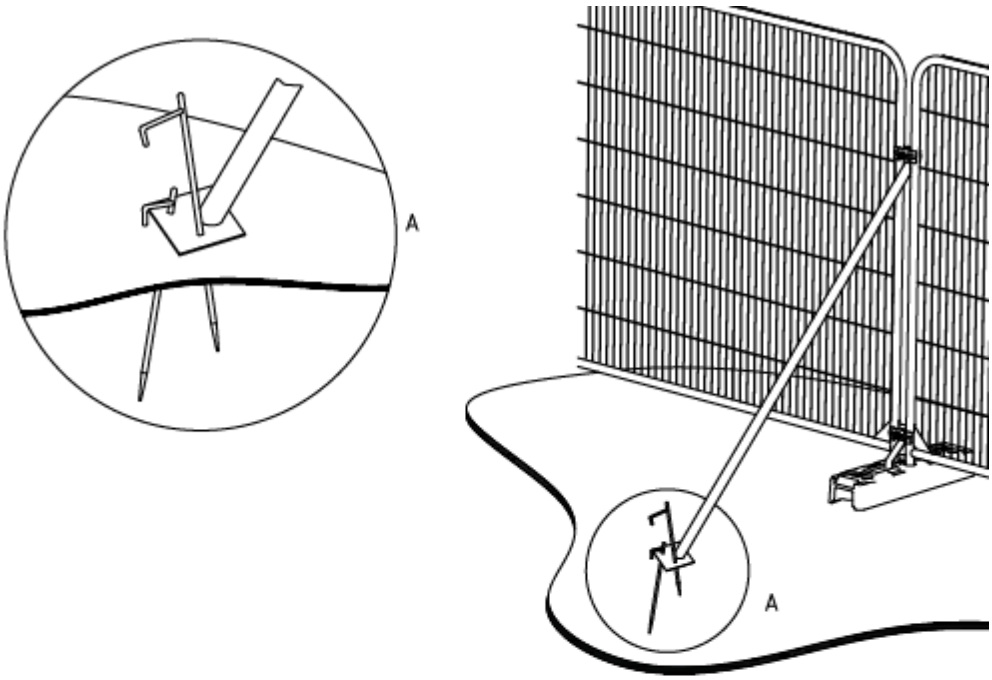

T1
T2
T3
T4
T5
T6
paving
bitumen
shrubs
grass
concrete
shed
TIE POINT 1
TIE POINT 2
ST03
64.547
ST02
64.490
ridge = 73.71
ridge = 74.00
gutter = 70.51
ridge = 76.59
gutter = 74.64
parapet = 67.90
ridge = 68.41
parapet = 67.54
gutter = 66.13
ridge = 67.01
gutter = 66.57
ridge = 66.39


Downside Crescent

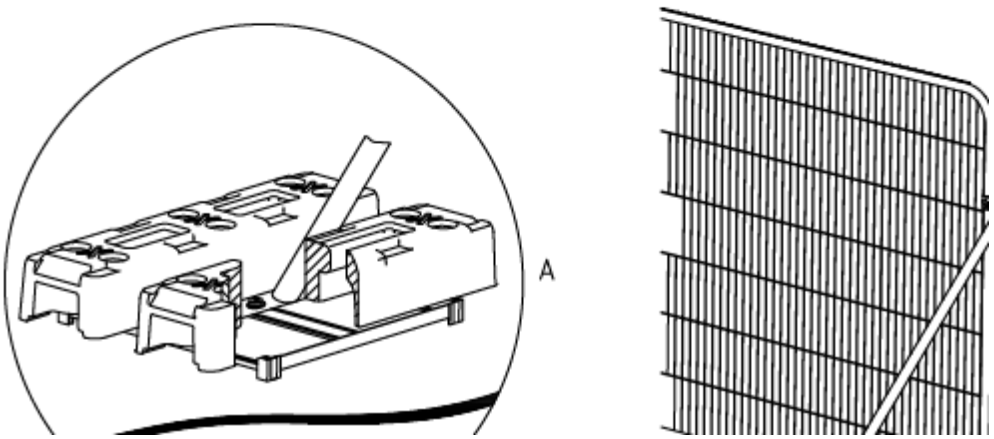
"CONSTRUCTION EXCLUSION ZONE – NO ACCES

re 2 **Default specification for protective barrier**





Stabilizer strut with base plate secured with ground pins



Link for appropriate ground protection although many exist www.geosyn.co.uk

(normative)

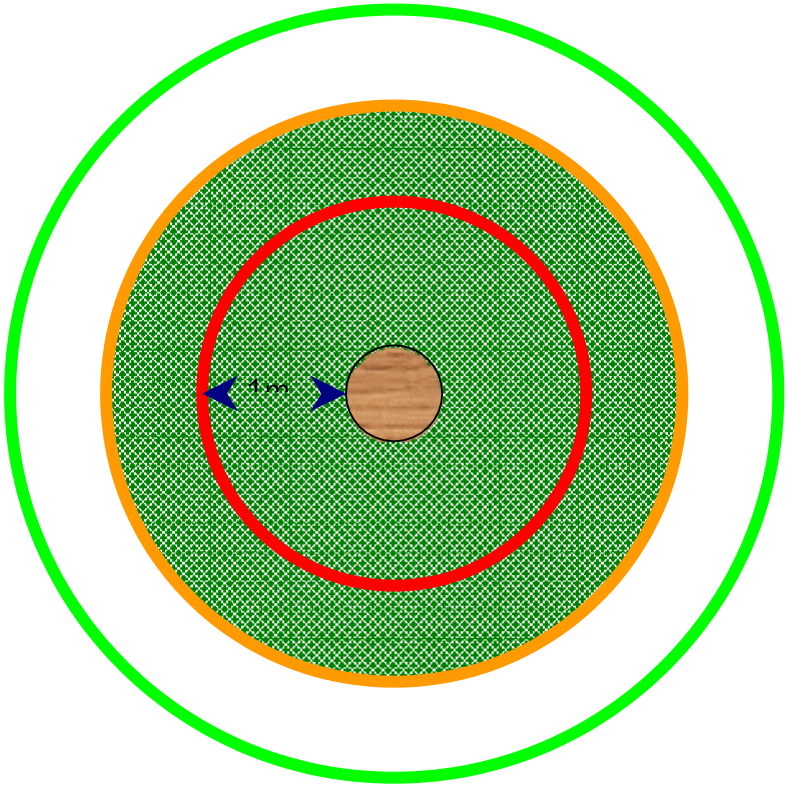
Root protection area

The RPAs given in Table D.1 should be used for single stem trees and the equivalent resultant combined stem diameter for multi-stemmed trees.

Single stem diameter mm	Radius of nominal circle m	RPA m^2	Single stem diameter mm	Radius of nominal circle m	RPA m^2
75	0.90	3	675	8.10	206
100	1.20	5	700	8.40	222
125	1.50	7	725	8.70	238
150	1.80	10	750	9.00	255
175	2.10	14	775	9.30	272
200	2.40	18	800	9.60	290
225	2.70	23	825	9.90	308
250	3.00	28	850	10.20	327
275	3.30	34	875	10.50	346
300	3.60	41	900	10.80	366
325	3.90	48	925	11.10	387
350	4.20	55	950	11.40	408
375	4.50	64	975	11.70	430
400	4.80	72	1 000	12.00	452
425	5.10	81	1 025	12.30	475
450	5.40	92	1 050	12.60	499
475	5.70	102	1 075	12.90	519
500	6.00	113	1 100	13.20	547
525	6.30	124	1 125	13.50	573
550	6.60	137	1 150	13.80	598
575	6.90	150	1 175	14.10	625
600	7.20	163	1 200	14.40	652
625	7.50	177	1 225	14.70	679
650	7.80	191	1 250+	15.00	707

Table D.1 **Root protection areas**

NOTE These figures are derived from the calculations described in ***4.6****.*



TREE PROTECTION ZONE

Key to Diagram

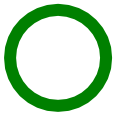
Trunk of Tree

Spread of canopy or branches

PROHIBITED ZONE – 1m from trunk. Excavations of any kind must not be undertaken within this zone unless full consultation with Local Authority Tree Officer is undertaken. Materials, plant and spoil must not be stored within this zone.

PRECAUTIONARY ZONE – 4 x tree circumference. Where excavations must be undertaken within this zone the use of mechanical excavation plantshould be

prohibited. Precautions should be undertaken to protect any exposed roots. Materials, plant and spoil should not be stored within this zone. Consult with Local Authority Tree Officer if in any doubt.



PERMITTED ZONE – outside of precautionary zone. Excavation works may be undertaken within this zone however caution must be applied and the use of mechanical plant limited. Any exposed roots should be protected.

DAMAGE TO TREES

Tree roots keep a tree healthy and upright. Most roots are found in the top 600mm of soil and often grow out further than the tree's height. The majority of these roots are very fine; even close to a tree few will be thicker thana pencil. Most street tree roots grow under the footway but may also extend under the carriageway. If roots are damaged the tree may suffer irreversible harm and eventually die.

PROTECTING ROOTS - DO'S and DON'TS

There are three designated zones around a tree each of which has its own criteria for working practices.

THE PROHIBITED ZONE

Don't *excavate within this zone.*

Don't *use any form of mechanical plant within this zone*

Don't *store materials, plant or equipment within this zone.*

Don't *move plant or vehicles within this zone.*

Don't *lean materials against, or chain plant to, the trunk.*

Do *contact the local authority tree officer or owner of the tree if excavation within this zone is unavoidable.*

Do *protect any exposed roots uncovered within this zone with dry sacking.*

Do *backfill with a suitable inert granular and top soil material mix as soon as possible on completion of works.*

Do *notify the local authority tree officer or the tree's owner of any damage.*

THE PRECAUTIONARY ZONE

Don't *excavate with machinery. Where excavation is unavoidable within this zone excavate only by hand or use trenchless techniques.*

Don't *cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.*

Don't *repeatedly move / use heavy mechanical plant except on hard standing.*

Don't *store spoil or building material, including chemicals and fuels, within this zone.*

Do *prune roots which have to be removed using a sharp tool (e.g. secateurs or handsaw). Make a clean cutand leave as small a wound as possible.*

Do *backfill the trench with an inert granular material and top soil mix. Compact the backfill with care aroundthe retained roots. On non highway sites backfill only with excavated soil.*

Do *protect any exposed roots with dry sacking ensuring this is removed before backfilling.*

Do *notify the local authority tree officer or the tree's owner of any damage.*

THE PERMITTED ZONE

Don't *cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.*

Do *use caution if it is absolutely necessary to operate mechanical plant within this zone.*

Do *prune roots which have to be removed using a sharp tool (e.g. secateurs or handsaw). Make a clean cutand leave as small a wound as possible.*

Do *protect any exposed roots with dry sacking ensuring this is removed before backfilling.*

Do *notify the local authority tree officer or the tree's owner of any damage.*

Ground Protection:

The position of the barrier may be shown within the RPA at the edge of the agreed working zone but the soil structure beyond the barrier to the edge of the RPA should be protected with

ground protection.

For pedestrian movements within the RPA the installation of ground protection in the form of a single thickness of scaffold boards on top of a compressible layer laid onto a geotextile, or supported by scaffold,

For wheeled or tracked construction traffic movements within the RPA the ground protection should be designed by an engineer to accommodate the likely loading and may involve the use of proprietary systems or reinforced concrete slabs

T1
T2
T3
T4
T5
T6
SIDE CRESCENT
bitumen
paving
ST03
64.547
ST02
64.490
TIE POINT 1
TIE POINT
ridge = 73.71
grass
shrubs
concrete

This report has been carried out and compiled by

Liam McGough FdSc Arb M ArborA

36 Queens Rd, London, N11 2QU

07738004625/020 8013 1187