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.

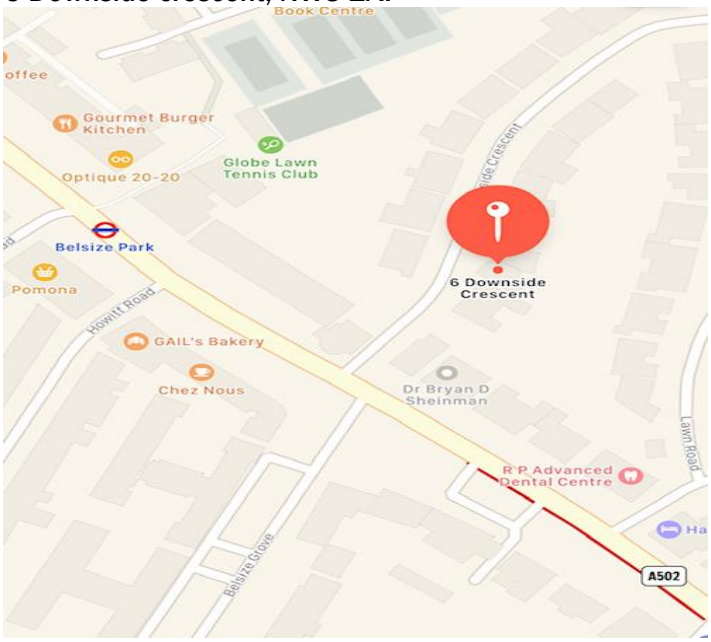
As trees are living organisms their health and condition can change rapidly. Extreme climate issues such as drought and flooding can affect soil shrinkage and overall tree health.
All statements made about the trees were based on the status of the trees at the time of inspection.

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.

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
T6	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 limited if any. The existing concrete covered ground in this section prevents the need to excavate any of the RPA. As shown on the plan in appendix any excavation needed will be done via bore holes and care is to be taken when selecting holes to miss any roots. The Garden store on the side of the building sown on the plan falls outside of the calculated RPA for T5 and T6 and has no arboricultural implication. Therefore, the proposed plan is suitable in terms of tree protection providing the Arboriculture method stipulated within this report are followed.

To avoid damage to tree roots, existing ground levels should be retained within the RPA. Intrusion into soil (other than for piling) within the RPA is generally not acceptable, and topsoil within it should be retained in situ. However, limited manual excavation within the RPA might be acceptable, subject to justification. Such excavation should be undertaken carefully, using hand-held tools and preferably by compressed air soil displacement.
NOTE Due to the demands that manual excavation places on a development project, and limitations arising from health and safety considerations, it is not realistic to plan for excavation using hand-held tools where there is a need for trench shoring or grading the sides of the excavation to a stable angle of repose.
Roots, whilst exposed, should immediately be wrapped or covered to prevent desiccation and to protect them from rapid temperature changes. Any wrapping should be removed prior to backfilling, which should take place as soon as possible.
Roots smaller than 25 mm diameter may be pruned back, making a clean cut with a suitable sharp tool (e.g. bypass secateurs or handsaw), except where they occur in clumps. Roots occurring in clumps or of 25 mm diameter and over should be severed only following consultation with an arboriculturist, as such roots might be essential to the tree's health and stability.
Prior to backfilling, retained roots should be surrounded with topsoil or uncompacted sharp sand (builders' sand should not be used because of its high salt content, which is toxic to tree roots), or other loose inert granular fill, before soil or other suitable material is replaced. This material should be free of contaminants and other foreign objects potentially injurious to tree roots.

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.

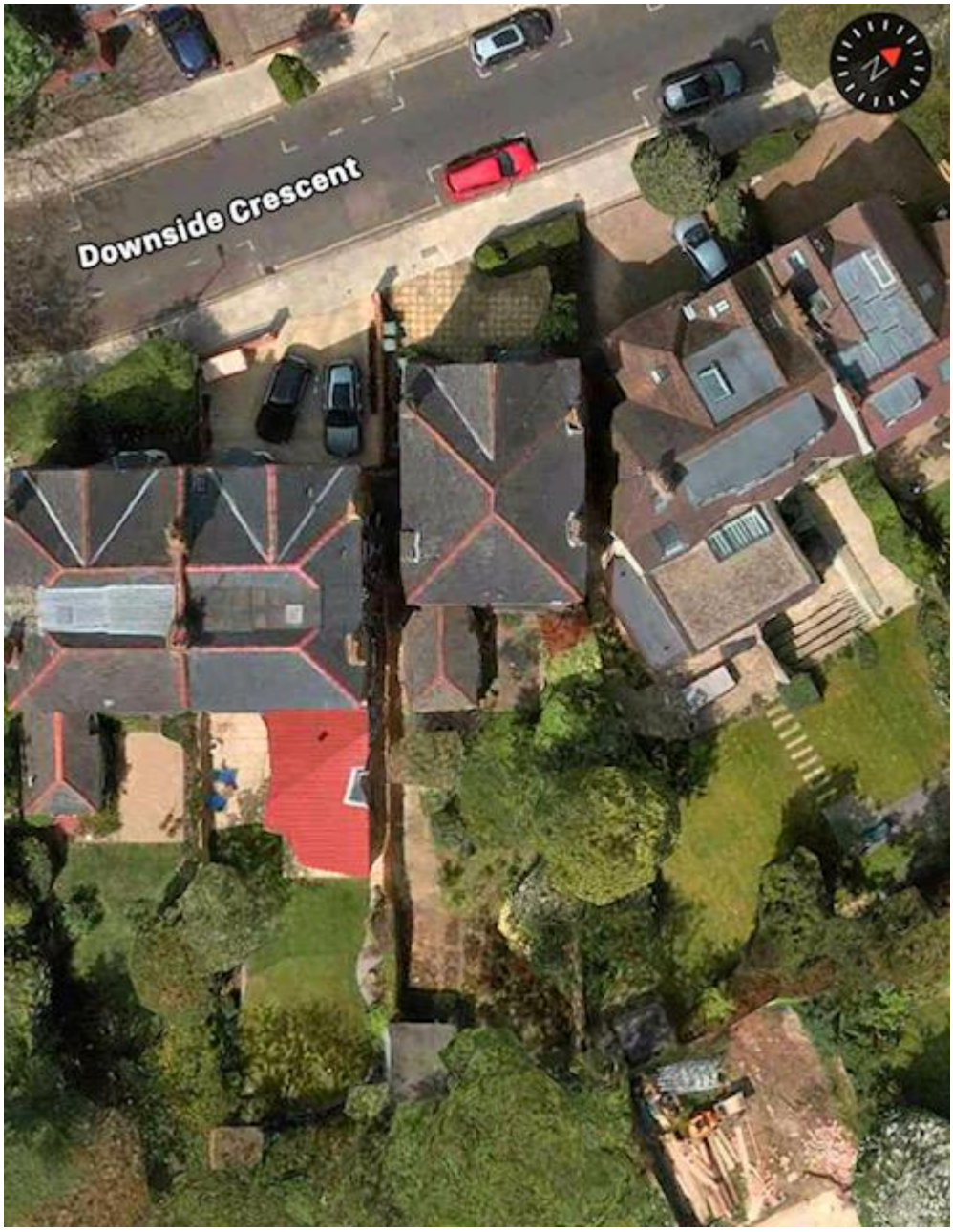
Over–mature- a tree that has exceeded its life expectancy.

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
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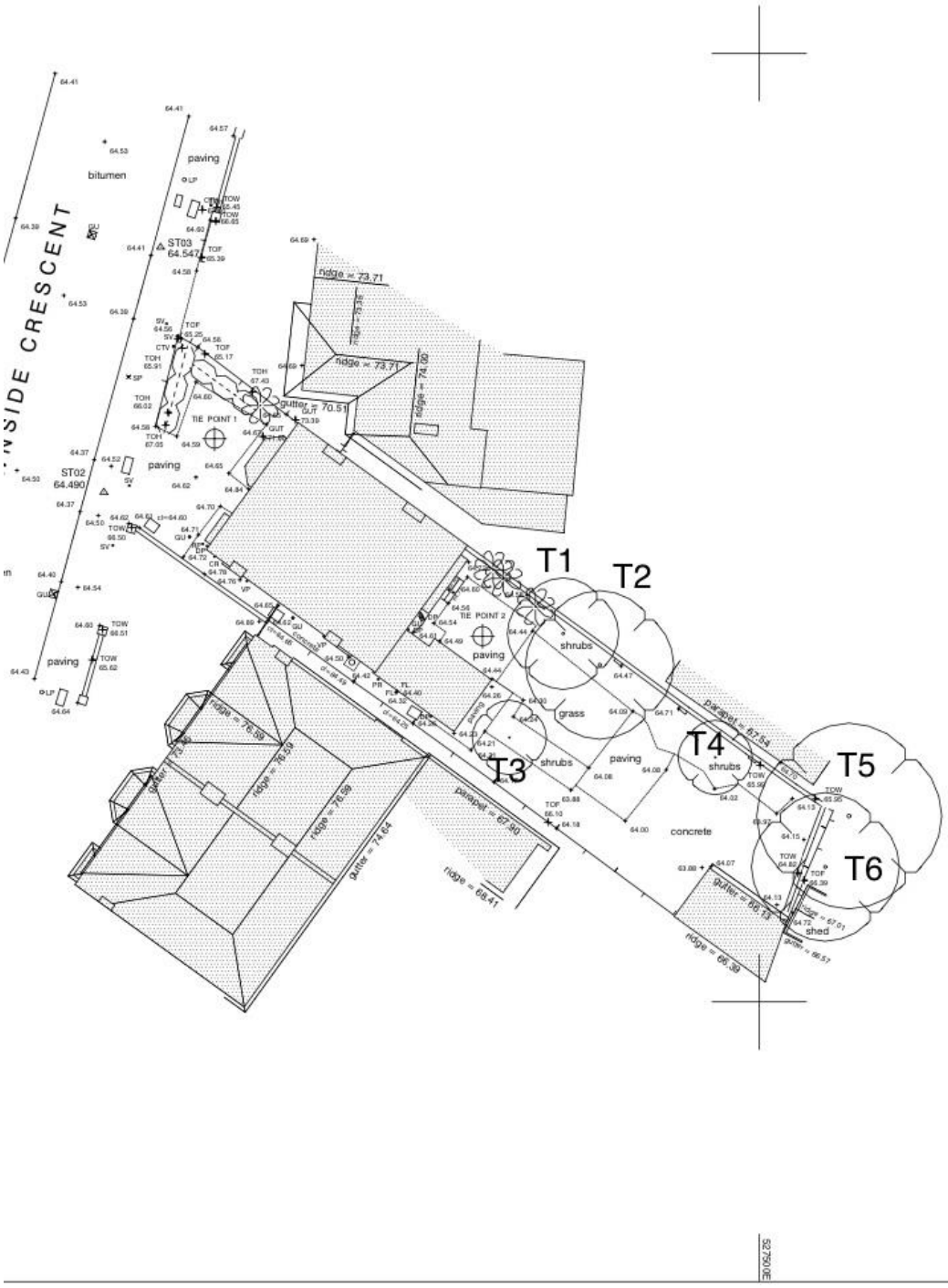
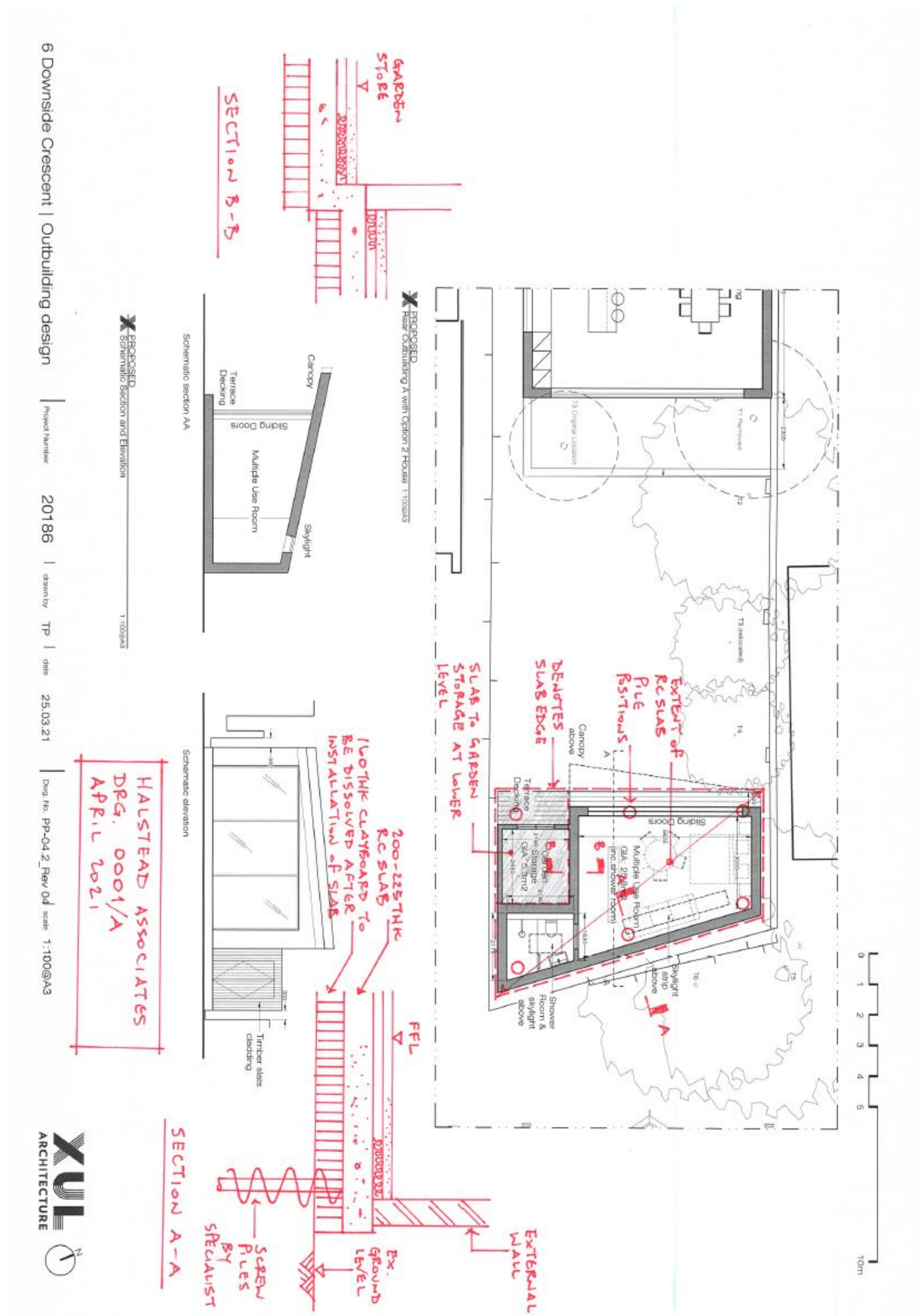
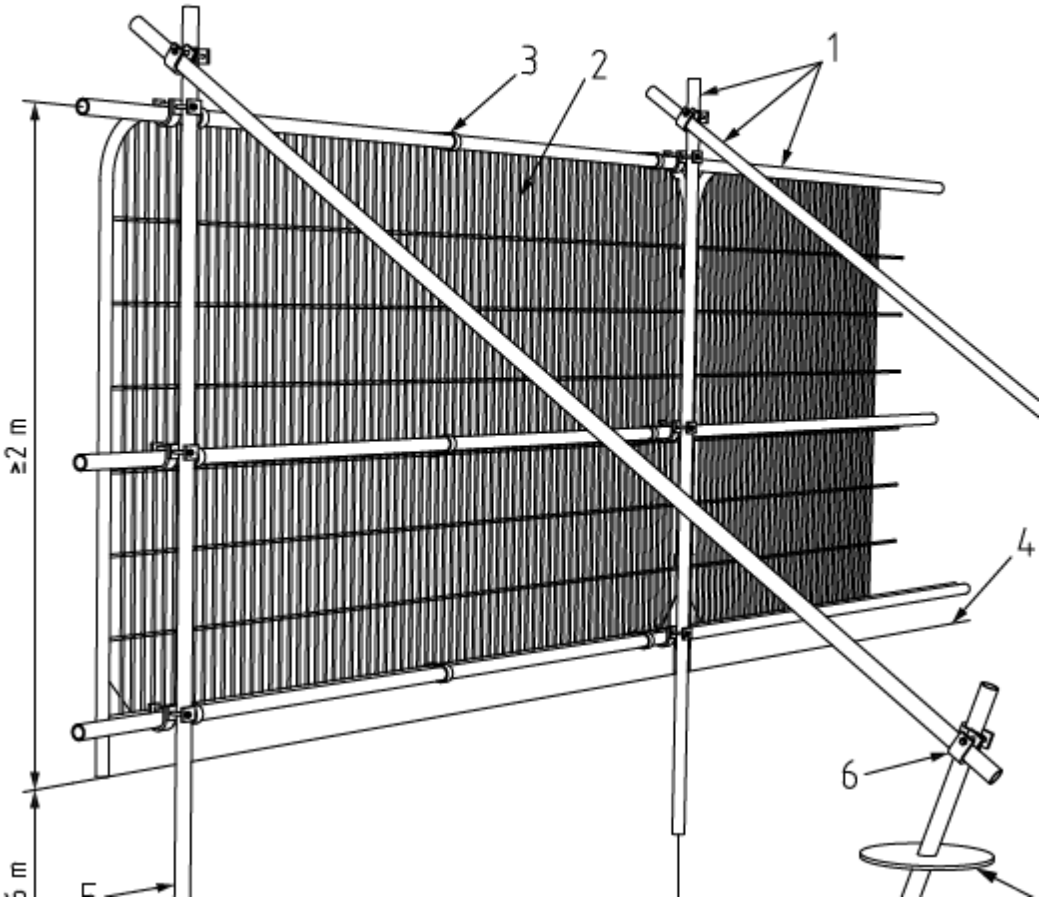
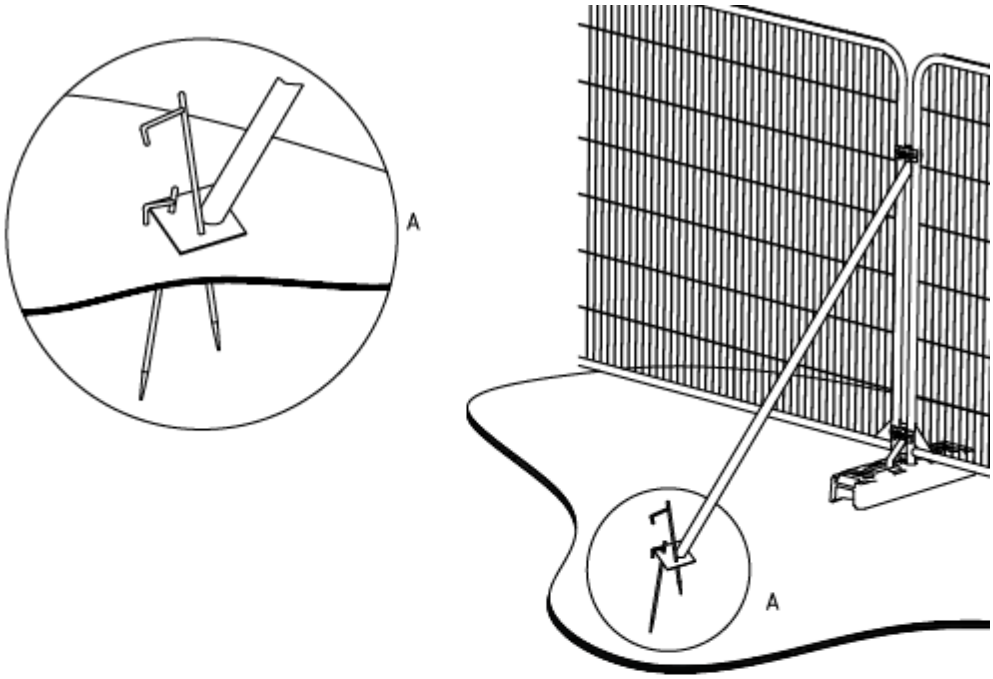

T1
T2
T3
T4
T5
T6
paving
bitumen
shrubs
grass
concrete
shed
TIE POINT 1
TIE POINT 2
ST02
64.490
ST03
64.547
ridge = 73.71
ridge = 74.00
ridge = 76.59
ridge = 74.64
ridge = 68.41
parapet = 67.54
parapet = 67.90
gutter = 70.51
gutter = 66.13
ridge = 66.39


6 Downside Crescent | Outbuilding design
Project Number 20186 | drawn by TP | date 25.03.21 | Dwg. No. PP-04.2_Rev 04 scale 1:100@A3
PROPOSED
Rear Outbuilding A with Option 2 House 1:100@A3
PROPOSED
Schematic Section and Elevation
Schematic section AA
Schematic elevation
Canopy
Terrace Decking
Sliding Doors
Multiple Use Room
Skylight
Timber slats cladding
GARDEN STORE
SECTION B-B
SECTION A-A
EXTENT OF RC SLAB
PILE POSITIONS
DENOTES SLAB EDGE
SLAB TO GARDEN STORAGE AT LOWER LEVEL
200-225 THK RC SLAB
150 THK CLAYBOARD TO BE DISSOLVED AFTER INSTALLATION OF SLAB
FFL
EXTERNAL WALL
EX. GROUND LEVEL
SCREW PILES BY SPECIALIST
HALSTEAD ASSOCIATES DRG. 0001/A APRIL 2021
Shower Room & skylight above
Skylight strip above
Canopy above
XUL ARCHITECTURE
10m

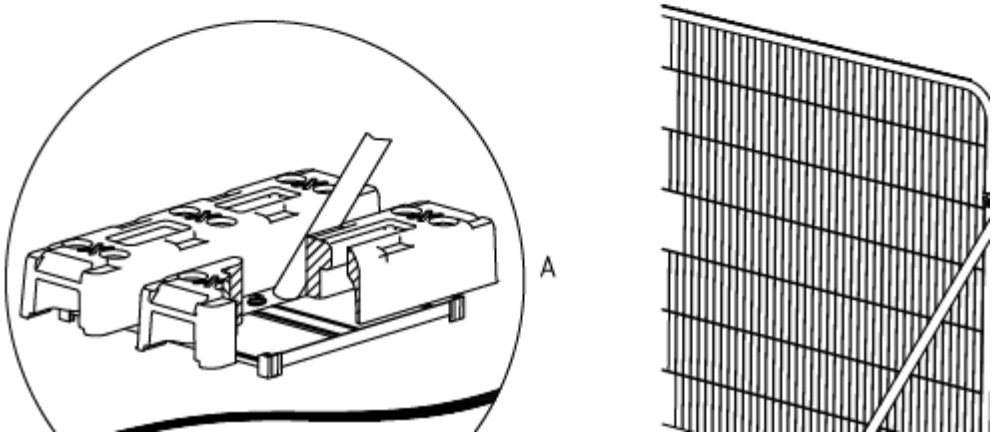
"CONSTRUCTION EXCLUSION ZONE – NO ACCESS

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****.*

This report has been carried out and compiled by

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