Site Specific Arboricultural Method Statement

Land at 26 Christchurch Hill, London NW3 1LG

A report to Erica Jong Architects on behalf of Ron Pascalovici

Date: 28th April 2020

Report No: WAS 144 -AMS/2020

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Report Verification

This method statement has been undertaken in accordance with British Standard 5837:2012 "Trees in relation to design, demolition and construction - Recommendations".

Disclaimer

The contents of this report are the responsibility of Wassells Arboricultural Services Ltd. It should be noted that, whilst every effort is made to meet the client's brief, no site investigation can ensure complete assessment or prediction of the natural environment.

Wassells Arboricultural Services Ltd accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

Validity of Data

The findings of this study are valid for a period of 12 months from the date of survey. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified and experienced arboriculturist to assess any changes to the trees and groups on site and to inform a review of the conclusions and recommendations made.

It should be noted that trees are dynamic living organisms that are subject to natural changes as they age or are influenced by changes in their environment. As such following any significant meteorological event or changes in the growing environment of the trees they should be re-assessed by a suitably qualified and experienced arboriculturist.

Introduction and Scope of Method Statement

This document has been produced to provide a method statement to ensure the protection of all retained trees that could potentially be affected by construction activity on the site and to discharge the following requirements of the Camden Council PP

Reference: Planning Permission – 2016/5974/P – condition 10

The scope of this report follows the recommendations and guidance described within ***BS 5837: 2012 Trees in Relation to Design, Demolition and Construction – Recommendations*** which set out the principles and procedures to be applied to achieve a harmonious and sustainable relationship between trees and structures.

This AMS will also recommend any required tree works to enable access and also to mitigate potential damage from construction activity and for the future well-being of the trees concerned.

Abbreviations:

RPA = root protection area

CEZ = construction exclusion zone

CWA = construction working area (including materials storage)

AMS = arboricultural method statement

AS = Arboricultural Supervision

TPF = tree protection fencing/hoarding/barrier

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Arboricultural Method Statement

Pre-commencement of project

- A pre-commencement site meeting is to be arranged by the site manager to ensure all tree protection measures are in place as described below
- Above meeting should involve local planning authority tree officer, site manager and project arboricultural consultant
- Cross-reference to the site Construction Management Plan is required to ensure tree protection is correctly and adequately managed

Excavation within RPA of Retained Trees

Ref: Addendum 1

- Prior to the start of piling on site the line of the proposed piles and pile cap that are within the RPA of trees T3 and T6, shall be excavated carefully by hand to 1 metre or the full depth of the cap/beam if deeper
- All roots above 25mm in diameter shall be properly severed with a suitable pruning saw and removed to enable construction.
- A root barrier such as ReRoot 1000 is to be placed along the outside face of the pile beam trench prior to installing the beam and cap

Tree Protection Barriers & Construction Exclusion Zone

Ref: Tree protection plan in addendum 2

- Tree protection fencing (TPF) is to be erected prior to starting on site as part of the initial site start up and is to be retained until completion of the project
- Tree protection fencing shall be as per site hoarding specification in addendum 1 below
- Notices as shown in addendum 2 below are to be erected on all tree protection panels as information for construction staff

Ground Protection of Existing Surfaces within Root Protection Area (RPA) of Nearby Trees

Ref: Addendum 1 and tree protection plan in addendum 2

- Ground protection to the area between the TPF and the new basement area is to be constructed as per specification in addendum 1 below. This area is shown hatched on the TPP in addendum 2
- Excavation within this area is not allowed apart from the line of the piling and pile cap
- Ground protection can only be removed on completion of the project. This shall be done under supervision from site AS

Access Facilitation Pruning & Tree Surgery/Removal Works

Schedule of Tree Works (Ref: Tree Survey data – 11th February 2016)

Tree Number	Tree Species	Diameter Class mm	RPA radius metres	Height metres	Grading Category	Tree work recommendations
1	Apple	175	N/A		U	REMOVE Replacement required as part of PP
2	Common Lime	525	6.3	20	B	RETAIN Crown reduced in earl 2019. Access facilitation pruning if required. AS to specify
3	Common Lime	3 x 250	4.2	14	C	RETAIN None
4	Sweet Chestnut	900	N/A		U	
5	Sweet Chestnut	250	3	14	B	RETAIN None
6	Common Lime	800	9.6	20	B	RETAIN Crown reduced in earl 2019. Access facilitation pruning if required. AS to specify
8	Sweet Gum	150	1.8	8	B	RETAIN None

Access facilitation pruning may be required to crown of trees on house side to enable access for piling rig. This will require further application under TPO/TCA regs. If necessary and specified by the site AS

Tree work to be carried out to the following standards and guidelines:

- BS 3998:2010 Recommendations for Tree Work
- Tree pruning cuts will be carried out using the 'Natural Target Pruning' technique as defined by: *BS 3998:2010 section 7.2.5 and Fig. 2 The Pruning of Trees, Shrubs and Conifers: George E. Brown & Tony Kirkham – 2nd edition revised & enlarged 2004 and Section 3.1.27 of The Arboricultural Association Specification for Tree Works June 2008.*
- Crown clean involves removal of dead, diseased & dying wood from tree crown, thinning of overcrowded crown, and removal of Ivy and all epicormic growth within crown including stem & basal epicormic growth.

Site Access and Construction Working Area (CWA)

- CWA is all areas of site outside of tree protection barriers/CEZ and comprises of the ground protection area shown hatched on the TPP

Site Storage and Accommodation

- Not within the CEZ
- Designated area to be agreed with AS if required

Installation of Services

- Arrangements for this element of the development of the site are unknown as at time of writing this AMS
- New service routes will be carefully considered using the AS below to advise on protection of nearby trees prior to commencement on site

Arboricultural Supervision (AS)

- AS shall be required during work within and adjacent to the RPA of retained trees. It must be undertaken at regular intervals with a written record of the meetings maintained with suitable photographic record in support.
- The AS must include a pre-construction commencement site visit, to be arranged by the Site Manager under instruction from Architects, and thereafter at specific events that affect the retained trees on site to enable sign-off by the AS.
- These are typically as follows:

1. Erection of tree protection fencing/barrier
2. Installation of ground protection to retained trees whose RPA are affected by the CWA
3. Start of Excavation/piling of foundations within the RPA of retained trees
4. Tree pruning requirements to prevent crown damage from construction activity
5. Start of Excavation/installation of paths, roads and car parking within RPA of retained trees
6. Installation of underground services within the RPA of retained trees
7. Tree condition survey on completion of construction work

Conclusion

Provided the recommendations shown above and the methodology for protection of any retained trees are followed, there will not be an effect on the current or future condition of those trees that are retained as part of this scheme.

References

1. BS 5837:2012 Trees in Relation to Design, Demolition and Construction - Recommendations
2. BS3998:2010 Tree Work – Recommendations
3. NJUG Volume 4 Issue2 2007 – Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees.
4. NHBC Standards – Section 4.2 Building Near Trees
5. British Geological Survey – London & the Thames Valley
6. Principles of Tree Hazard Assessment – Lonsdale 2001
7. Diagnosis of Ill Health in Trees – Stouts & Winter 2004
8. Design plans – Erica Jong Architects
9. Foundation plans – Price 7 Myers
10. Demolition and Construction Management Plan – Price & Myers
11. Wassells Tree Survey Report – WAS 28/2016 REV A

Declaration

This AMS is written and checked by Richard Wassell of Wassells Arboricultural Services Ltd. and provided without prejudice as an objective and professional assessment of the trees and site conditions described.

Signed: R.J. Wassell Date: 28.04.MMXX

Richard Wassell. Director

CHort MCIHort MArborA NDArb (RFS) Kew Diploma NEBOSHlevel3

Arboricultural ASSOCIATION Professional Member

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Addendum 1 – Tree Protection Informative

Ref: BS 5837:2012 in Tables C.1 & D.1of annex C & D

Protecting Root Zone of Trees (BS 5837:2012 section 6.2 Figs. 2 & 3):

The Root Protection Area (RPA)

This is the area surrounding a tree that is deemed to contain sufficient roots and rooting volume to maintain the trees viability in the future. The root system is typically concentrated in the uppermost 600 – 1200mm of the soil and is not necessarily symmetrical around the tree, being dependent on a number of factors such as water, nutrients, oxygen, soil penetrability and physical obstructions such as existing foundations, roads or changes in level (terracing).

The RPA is a design layout tool that is deemed to be a minimum area around a tree where the protection of roots and soil structure are treated as a priority. This area is envisaged as and portrayed with a circle around each tree as would be the case if it were an open grown with no physical restrictions. Where there appears to be restrictions to root growth then rooting may occur in areas outside of this typical RPA area. Where this is deemed to be likely then a “no-dig” root investigation trench can be carried out to determine actual depth and density of rooting.

Key Points

1. AVOID building works within the RPA if at all possible but if not then carefully consider the following: where the RPA is likely to be severely affected because of site design constraints then felling and planting replacement(s) trees in a more suitable location on the site will need to be considered.
2. Where possible do not use strip foundations within the RPA, if absolutely necessary consider using a trenching saw or excavate by hand to avoid ‘shatter damage’ to the root system.
3. Consider using piling techniques for foundations @ maximum 350 mm diameter with ground beams on or above the surface of the root zone.
4. Unless unavoidable, do not exceed entering the root zone by more than one fifth of RPA radius.
5. Do not trench tangentially across the root zone for footings and services unless it cannot be avoided.
6. Consider ‘no dig’ techniques for services installation, with radial service lines being preferable to tangential across the root zone. Where this is undertaken then boring must be carried out below 600mm deep.
7. Any hard surfacing, paths and roads need to have the same considerations for the RPA and as in the above points. Where possible paths and hard surfacing (patios etc.) need to be surface constructed (cellular) and semi-porous to allow water penetration and gaseous exchange into the root system of trees.

Excavation within Root Protection Area of trees

Where trees are to be retained then any proposed foundation, underground services work and hard surfacing such as roads/paths falling within the RPA of trees that are to be retained shall be kept as far away from tree stems as possible (SEE NOTE 1 ABOVE). Where any such works are necessary within the RPA there will be a requirement to dig carefully by hand and ensure any roots encountered of maximum 25mm in diameter shall be exposed and correctly pruned back by a competent Arborist. Where larger roots are encountered of above 25mm in diameter then advice from the Arboricultural Supervisor (AS) for the site must be sought prior to any work being undertaken.

Any roots exposed/ pruned back as part of the above operation shall NOT be left exposed to drying out. All roots exposed/pruned shall be either covered with damp Hessian sacking prior to backfill or backfilled/covered immediately with a suitable open and free draining compost/loam.

Site Hoarding

Site hoarding, where possible, shall be no closer than 1.5 metres away from the stem of retained trees and consist of 2400mm high x 1200mm wide x 20mm thick plywood sheets supported by minimum 100mm square posts and 100 x 50mm rails with posts at 2.5 metre centres.

Post holes for site hoarding that are required within the RPA of nearby trees shall be dug by hand and are to be a maximum of 300 x 300mm and 450mm deep

Posts to be supported in the ground with 1 bag of “PostCrete” per post or use of “Meta Posts” if applicable

Ground Protection System Specification for pedestrian access areas only:

- Level area of RPA concerned by blinding with sharp sand at maximum depth of 50mm
- Lay geo-textile membrane such as ‘Terram’ to cover area concerned and peg down on banked areas as required
- Cover geo-textile with maximum of 100mm MOT Type 1 sub-base – not compacted
- Retain MOT type 1 with edge restraint/terrace restraint using 30 x 100mm edging board pegged every 2 metres to prevent migration of the sub-base
- OR
- Use 20mm minimum thickness plywood sheets instead of MOT type 1 and ensure they are secured from moving

Other manufactured ground protection systems are available such as Eve Tracking, EcoGrid or similar and should be used as an alternative where machinery access is required.

Addendum 2 – Tree Protection Plan

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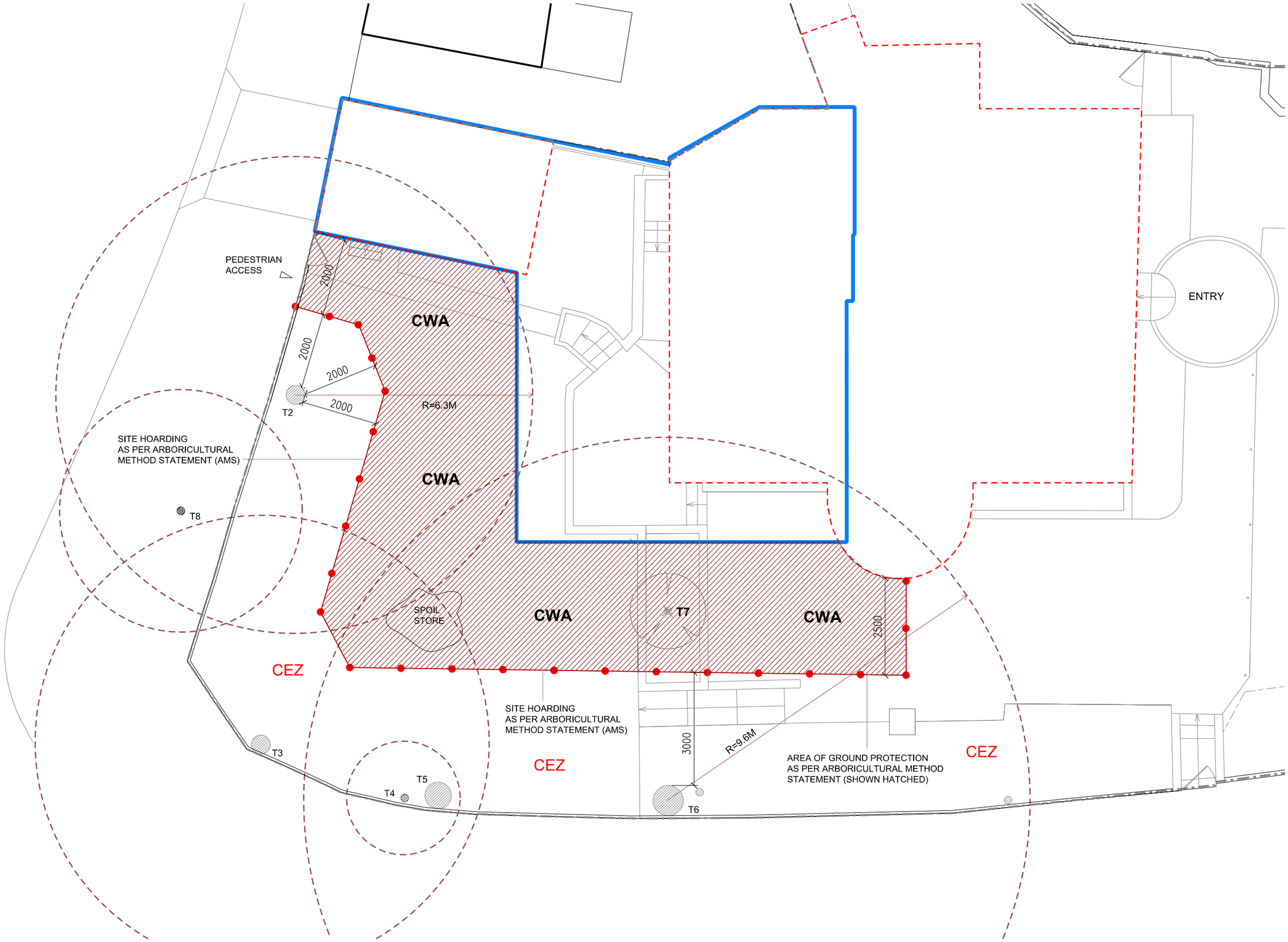

TREE PROTECTION PLAN

LEGEND

- EXISTING HARD LANDSCAPING
- EXISTING FOOTPRINT OF THE MAIN DWELLINGHOUSE
- PROPOSED BASEMENT FOOTPRINT
- DENOTES TYPICAL ROOT PROTECTION AREA

CWA = construction working area

TREE SURVEY INFORMATION -WAS 28/2016 REVA
(SEE AMS ADDENDUM 3)

T1 = CULNARY APPLE - remove
T2 = COMMON LIME
T3 = COMMON LIME
T4 = SWEET CHESTNUT
T5 = MORIBUND SWEET CHESTNUT (TPO)
T6 = COMMON LIME
T7 = OLIVE (GROWING IN RAISED BED) - remove
T8 = SWEET GUM (STREET TREE)

1. CEZ = CONSTRUCTION EXCLUSION ZONE
2. FACILITATION PRUNING AS REQUIRED BY REPORT TO PREVENT UNNECESSARY DAMAGE TO TREE CROWNS

REFER TO PRELIM CONTRACT CONDITIONS AND DESIGN CONSULTANTS' SPECIFICATIONS

REVISION

-	04 MAR 2016	ISSUED FOR PRE-PLANNING APPLICATION ADVICE (2016)
A	15 OCT 2016	DRAFT - ISSUED FOR INFORMATION
B	24 OCT 2016	ISSUED FOR LISTED BUILDING CONSENT & PLANNING APPLICATION
C	06 JAN 2020	ISSUED FOR TENDER (1ST-STAGE)
D	31 JAN 2020	ISSUED FOR TENDER (2ND-STAGE)
E	22 APR 2020	ISSUED FOR DISCHARGE OF CONDITION 4 - DRAFT FOR COMMENT

NOTES:
- THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION
- DO NOT SCALE FROM THIS DRAWING
- ALL DIMENSIONS MUST BE VERIFIED FROM SITE

1cm 5cm
1m 5m

CLIENT
MR RON PASCALOVICI

PROJECT
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TITLE
PROPOSED BASEMENT FOOTPRINT
WITH SITE CONSTRAINTS

DWG No 0036.00.004_E

1:50 @ A1
SCALE 1:100 @ A3

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CONSTRUCTION EXCLUSION ZONE

NO ACCESS

PLEASE REPORT IMMEDIATELY ANY DAMAGE TO TREES OR FENCING TO THE SITE MANAGER

TO BE LAMINATED SIZE A3 AND FIXED TO EVERY TREE PROTECTION BARRIER PANEL WITH CABLE TIES