

1-38-1815

REPORT

on the impact on trees

of proposals for development

at

8-9, Oak Village, London, NW5 4QR

(15th July 2014)



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01

Introduction, Instructions and Background

01.01

I am instructed by Harald Brenden to make an assessment of tree amenity value and condition of trees, at 8-9 Oak Village, London, NW5 4QR, and of the impact of a proposal for development (offices) on such trees. Accordingly, I visited the property on 25th June, 2014 in order to carry out an inspection in connection with an earlier application, 2004/3065/P July 14th 2004. I initially attended site in 25th October, 2004. I supervised a trial pitting exercise to determine root-spread; my report is appended. Subsequently, consent was granted on appeal for the above scheme, ref: APP/X5210/A/04/1167568.

01.02

The current application is a re-application for the above scheme granted on appeal.

02

Copyright

02.01

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03

Notes

03.01

PLANS

1-38-1815/P1 gives an approximate representation (in plan) of actual crown form, and is intended to indicate the relationship of neighbouring trees to each other, and should be read with the comments on crown shape and tree value in TREE DETAILS appended. The plan gives a quick reference assessment of value as per section 4, table 1, of BS 5837:2012. Assessment of value in the TREE DETAILS table appended is, in accordance with British Standard 5837:2012 'Trees in relation to design, demolition and construction - Recommendations' related mainly but not exclusively to the criterion of *visual value to the general public*. The Standard recommends a way of classifying trees when assessing their potential value in relation to proposed development. Some surveys may not include any trees of one or more categories. Table 1 suggests categories 'U', 'C', 'B' and 'A', in ascending merit. 'U' (RED crown outline on plan) category trees are dangerous \ low value trees that could require removal for safety or arboricultural reasons. 'C' (GREY or black/uncoloured crown outline on plan) category trees are of no particular merit, but in adequate condition for retention. 'A' category trees (GREEN crown outline on plan) are trees of high vitality or good form, or of particular visual importance: 'B' (BLUE crown outline on plan) category are good trees but may be of slightly poorer form or

be not sited as importantly as 'A' category trees. See TREE DETAILS appended. Category Assessment appears in column 10. This standard also provides a way of determining an area (see TREE DETAILS column 7) – the RPA – root protection area - around the trunk of the tree in which protective measures should be used in order to prevent significant damage to trees. There are various ways of achieving this. A simple way is to use exclusion fencing, but other methods have been shown by established use to be very effective.

03.02

1-38-1815/P2 and 1-38-1815/P3 are colour-coded to indicate where arboricentric methods are proposed during the demolition and construction processes.

04

Sources and Documents

Ground level inspection.

Supplied plans refs:

PKS Architects – Job 630 drgs. 003-01, 003-02, 003-03, 003-04, 003-05.

05

Appraisal

05.01

AMENITY / SCREENING BY TREES AND SHRUBS

The two ash trees 1 & 2 listed below are of some general public amenity value, as they are visible from Oak Village. They stand, not on the site, but on the railway embankment behind the garages. Branches currently overhang the roof of the existing garages to a considerable degree and therefore the lower edge of the crown of T1 extends to within 3.5m of ground level (see cover photo).

05.02

TREES AND LAYOUT - POTENTIAL FOR CONFLICT WITH ROOTS

(Details appear in the tree detail table appended.) The figures in columns 6 and 7 in the tree details table appended indicate the root protection area ('RPA'), and typically the basic exclusion fence position.

05.03

An assessment as per BS5837:2012 section 4.6.2 has been carried out in connection with all trees to be retained. (This section requires that site conditions, tree mechanics, etc., are taken into account in determining the likely position of roots.) This is of particular relevance in connection with this site where the trees to be retained are sited on a bank. In such situations, trees typically develop short 'prop' type roots on the downhill side, and much more extensive roots on the uphill side, the difference in due to lack of mechanical loading of the soil by the tree on the uphill side, and high mechanical loading on the downhill side.

05.04

ROOTS and DESIGN

SRP is an acronym for *static root plate*, (after *Mattheck*, 1991, etc.) a radial dimension derived from trunk diameter based on studies of wind-thrown trees and thus a guide to where structurally significant roots are likely to be located. RPA is an acronym used in BS5837:2012 and signifying the *root protection area*. The RPA is a guide to where systemically significant roots are likely to be located. No significant encroachment on the RPA (or SRP) of any retained tree is entailed. See appended JCAC report dated 21st December 2004. This report in summary demonstrated that no significant roots were likely to have underpassed the existing garage footings, which were rather unusually deep for such old structures.

In the writer's now extensive experience gained over nearly a third of a century in arboriculture, controlled, limited-extent, vertical root cutting is in any case of little or no significance to tree health. The actually damaging operations are those that degrade or compact the ground surface within the RPA, for example by uncontrolled access by mechanical excavators, dumpers, etc. It should be noted that the very limited root cutting entailed in this proposal is, by an order of magnitude, far less than that entailed in the commercial moving of maturing and even mature trees, which has been practised successfully for centuries.

In view of the above I conclude that no special footings are actually needed from the arboricultural perspective. The use of a piled footing with ordinary depth ground beams (typically 450mm) is proposed. In this case all trees to be retained can be adequately protected by exclusion fencing and other measures as indicated. Methods are proposed below to reduce impacts on root systems of retained trees.

05.05

PERCEPTION OF TREES

The proposed building is not to be continuously habited. There are no windows in rear or flank elevations. The front (fenestrated) elevation is SW facing. In view of the above I conclude that shading by trees has been considered (as section 5.6.2.6 of BS 5837:2012 recommends) and appears not significant.

05.06

Processing by the LPA of any due application from future owners for permission to carry out tree work will no doubt be carried out with due regard for good arboricultural practice and according to British Standard 3998:2010 'Tree Work – Recommendations'. In any appeal that might arise against refusal of LPA consent to reduce inappropriately, or fell trees, common arboricultural criteria to those of the LPA would be used by any specialist tree inspectors of the Planning Inspectorate, and thus the trees would in my view be thus protected against inappropriate work. I consider that any such notional issues are very likely to be dealt with appropriately as no doubt in the past they have been within the Borough, as such tree/building juxtapositions are far from rare.

05.07

SUPERSTRUCTURE AND TREE APPRAISAL - TREE PRUNING

I note from the elevation drawings supplied that some encroachment on the crown of retained trees will occur. It is of note however that the form of the trees is such that the defining branch structure is well above or clear of the proposed building line (6.46m +GL). Pruning to clear ground level by 8m in the construction zone in plan is proposed. The trees are outside the site and is ivy-infested. This pruning will have no deleterious effect on the health or appearance of the retained trees, and can easily be addressed by tree surgery in accordance with BS5837:2012 5.3.4 (c) NOTE 2, 7.7.3, etc., and is within the bounds of good arboricultural practice and British Standard 3998:2010 'Tree work – Recommendations'. This should be to method below. A schedule for the use of a contractor appears below.

05.08

SUPERVISION

Supervision by an arboriculturist is a desirable (but not always essential) element of site development where trees are present and to be retained. Good communication between site agent and arboriculturist can reduce the need for such a measure. I propose that this takes place at key points in the construction process, and additionally whenever required by the architect or LPA. These key stages are as per method 1 in section 06.02 below.

05.09

PUBLISHED GUIDANCE IN RELATION TO TREES AND DEVELOPMENT

In conserving trees on development sites, expected best practice is as in B.S. 5837 : 2012. Section 5.1.1 notes :

“Certain trees are of such importance and sensitivity as to be major constraints on development or to justify its substantial modification : attempts to retain too many or unsuitable trees on a site can result in excessive pressure on the trees during demolition or construction work, or post-completion demands for their removal.”

05.10

The above advice appears to have been considered in formulating proposals for development.

05.11

CONCLUSION

I conclude that the construction proposed, subject to precautionary measures as outlined above and as per the recommendations outlined below, will not be injurious to trees to be retained, nor will require any trees of significant public amenity value to be removed.

06

Tree Protection Proposals

06.01

TREE PROTECTION - GENERAL

It is highly important to tree health and vitality that construction activities are carried out strictly in accordance with the tree protection methods specified. A single traverse of a root protection area by a mechanical excavator can cause SIGNIFICANT and PERMANENT (albeit temporarily invisible) damage to trees. Such machinery, including piling rigs, shall be kept at ALL times outside the root protection areas as indicated in the tree details table appended, and/or shall be subject to SPECIAL METHODS below. Fences to protect trees shall be respected as TOTAL EXCLUSION fences. Hence, before any site activity, including demolition, the fence lines shall be complete. Protective fencing and any temporary protection of ground surfaces will have to be removed in due course to allow finishing of landscaping, paving, etc., but this shall not take place until all need for vehicular access to the site has passed, and shall be agreed with arboriculturist / planners on site during progress of works.

06.02

TREE PROTECTION – SPECIAL METHODS 1-10

DEMOLITION PHASE

PLEASE READ WITH PLAN REFERENCE 1-38-1815/P2, APPENDED.

The Methods shall be implemented in the order given unless it is stated to the contrary.

Method 1 : Supervision by an arboriculturist shall take place at key points in the construction process, and additionally whenever required by the architect or LPA. These key stages are :

- 1) At site possession by contractor, outline all tree protection measures with site agent and resolve any issues arising. Ensure remedial tree work including any minor accommodatory tree work required for erection of scaffolding near trees is carried out to specification and sign off. Ensure protective fencing is erected and completed as proposed. Ensure any site huts, mixing sites for mortars, disposal-to-skip sites, etc., are located appropriately, and sign off.**
- 2) Supervise laying of ground protection and sign off.**
- 3) Approve timing of removal of protective fencing (post main phase) and sign off.**

Method 2 : TREE WORK

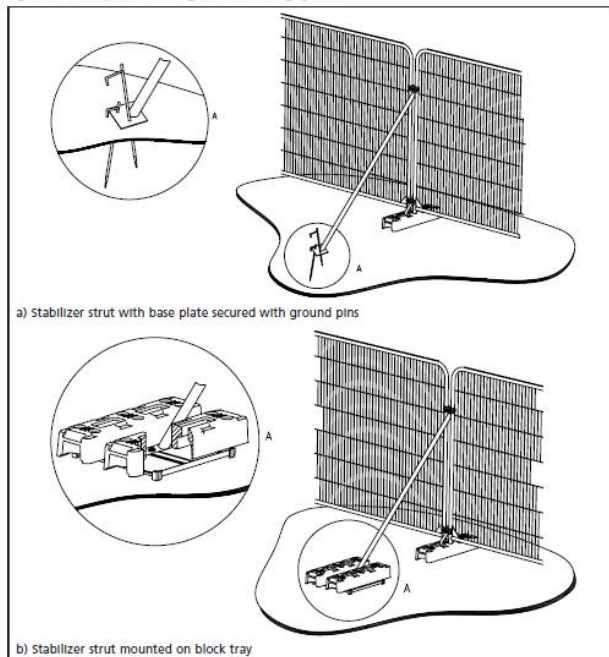
Tree work shall be in accordance with the provided specification and good arboricultural practice, and to BS 3998:2010 'Tree Work - Recommendations'.

Method 3 : TREE PROTECTION FENCING

Tree protection fencing shall be erected, consisting of 'Heras' type fencing (weld-mesh panels), each section securely attached to uprights driven at least 0.6m into ground, as per the layout as shown on the plan

(pink lines). No ground levels reduction or excavation shall take place within (=the tree side of) the fence lines. The standard rubber supports ('elephant's feet') shall if used, be as per BS 5837:2012 section 6, figure 3, below left.

Figure 3 Examples of above-ground stabilizing systems



Method 4 : GROUND SURFACE HANDLING and PROTECTION

This method shall apply in the zone hatched blue on plan. NO levels reduction shall take place. This includes no 'scraping up' with a mechanical excavator or otherwise. Any existing hard surfacing, any existing surface debris, light vegetation, etc., that lies within the zone shall be removed using hand tools or hand-held power tools only. Timber lengths shall be laid on the ground to provide levelling as required on the downhill side,

then an HDPE membrane and then continuously abutted scaffold boards or manufactured boards shall be laid so as to completely cover this area.

Method 5 : DEMOLITION

This method shall apply generally. Demolition shall be by 'top down, sides in' method, shall be carried out with hand tools or hand-held power tools only. Cement residues shall be dry brushed, bagged up and removed to skip for disposal off site. Hoses or other irrigation shall not be used to wash cement dust residues away. Any cement-contaminated soil shall be removed with hand tools only and removed from site.

CONSTRUCTION PHASE

PLEASE READ WITH PLAN REFERENCE 1-38-1815/P3, APPENDED.

The Methods shall be implemented in the order given unless it is stated to the contrary.

Method 6 : TREE PROTECTION FENCING

Tree protection fencing shall be maintained/adjusted, as per Method above.

Method 7 : GROUND SURFACE HANDLING and PROTECTION

This method shall apply in the zone hatched blue on plan. Ground protection as per Method above shall be maintained/adjusted.

Method 8 : ROOT PRUNING

This method shall apply within any RPA (orange shapes). Any roots encountered shall be trimmed to the edge of excavation using a sharp edge tool such as handsaw or secateurs; the cuts shall be made at right angles to the long axis of the root, and in accordance with BS3998:2010,

8.6. An HDPE membrane shall be placed between any root-bearing soil and any wet concrete to be poured. Impermeable sheeting (to exclude wet concrete) shall be laid and secured locally by temporary weighting as required. Pile / beam / slab casting shall take place without disturbing this protective layer.

Method 9 : SERVICE TRENCHES

N.B. -This applies to ALL services : Electricity, gas, water, etc. Existing services shall be utilised wherever possible.

These methods shall apply generally within any RPA (orange shapes).

1) The trench shall be opened with an air-spade to required depth.

OR

2) The trench shall be dug with hand tools only. Probes such as screwdrivers or steel rod <10mm diameter to determine root presence ahead of digging shall be used. The work shall proceed cautiously. No roots over 20mm diameter shall be cut. Roots 20mm or more in diameter unearthed shall be temporarily protected with bubble-wrap and insulating or gaffer tape while rest of trench is dug.

OR

3) Services shall be thrust-bored using trenchless techniques (compressed air-driven 'mole') at a depth of 700mm or more below ground level, entailing no surface excavation. Starter pits for rams shall be outside any RPA, or reception/starter pits shall be opened according to 1) or 2) above.

Method 10 : In addition to the above, careful general operation and site handling shall be observed as outlined at 06.03 below.

06.03

GENERAL TREE PROTECTION METHODS

- A) No fires shall be made on any part of the site, or within 20m of any tree to be retained.
- B) No spilling or free discharge of wet mortar, concrete, fuels, oils, solvents, or tar shall be made on any part of the site.
- C) No storage of wet materials shall be made within the protective fences.
- D) No breaching or moving of the protective fences shall take place without the approval of an arboriculturist.

06.04

It is recommended that acceptance of the recommendations in this report is demonstrated by, for example, the architect specifying in writing to the building contractor that tree care conditions apply in execution of the contract, and by an estimate or written undertaking from the contractor to the architect demonstrating that the practical aspects of observation of such recommendations have been priced in.

07

General

If conflicts between any part of a tree and the building(s) arise in the course of development these can often be resolved quickly and at little cost if a qualified arboriculturist is consulted promptly. Lack of such care is often apparent quickly and decline and death of such trees can spoil design aims and can of course affect saleability, and reflect poorly on the construction and design personnel involved. Trees that have been the recipients of careful handling during construction add considerably to the appeal and value of the finished development.

15th July 2014

Signed:

A handwritten signature in black ink, appearing to read 'John Cromar', with a long, sweeping horizontal flourish extending to the right.

John C. M. Cromar, Dip.Arb.(RFS) F.Arbor A.

01582 808020 / 07860 453072

APPENDICES

08

Tree Data

Tree number	Tree type	Height	Stem diameters	Radius of RPA if circle (mm)	RPA (m ²)	Comments	Life expectancy (years)	Assessed BS5837 value category
1	ash	15	580	6960	152	Heavily ivy infested. Ivy has invaded much of upper crown. Outside site, assumed under control of TfL or Network Rail. The size of the branches requiring pruning is difficult to judge because of the extent of ivy. It appears that branches less than 120mm in diameter or so are involved. Prune to clear ground level by 8m on the south west side of the tree only. Remove ivy throughout the crown and kill the ivy at the base of the tree.	20+	B1
2	ash	15	475	5700	102	Ivy infested, trunk only. Outside site assumed under control of TfL or Network Rail. Prune to clear ground level by 8m on the south west side of the tree only, and only where over the site. Remove ivy throughout the crown and kill the ivy at the base of the tree.	40+	B1
G3	elder and ivy	5	100	1200	5	Scrub growth. Remove including stumps- grind stumps to below ground level or cut to near ground level and treat with approved herbicide.	10+	C2

09
Schedule

Trees at 8-9 Oak Village, London, NW5 4QR

Please read in conjunction with plan 1-38-1815/P2. Trees outside the curtilage of the property may be included. Boundaries where marked should always be treated as notional, and no statement either implied or explicit as to the ownership of trees should be taken as definitive or precise. **As applicable, the consent to, or acquiescence to, and communication of the timing of the recommended remedial works, as far as the relevant owner is concerned, should be checked before any such trees are actually treated.**

Tree number	Tree type	Height	Stem diameters	Radius of RPA if circle (mm)	RPA (m ²)	Comments
1	ash	15	580	6960	152	Prune to clear ground level by 8m on the south west side of the tree only. Pruning cuts to be made to side branches at least one third the diameter of the parent growth. Remove ivy throughout the crown and kill the ivy at the base of the tree.
2	ash	15	475	5700	102	Prune to clear ground level by 8m on the south west side of the tree only, and only where over the proposed site (most of the required pruning is to tree 1). Remove ivy throughout the crown and kill the ivy at the base of the tree.
G3	elder and ivy	5	100	1200	5	Remove including stumps- grind stumps to below ground level or cut to near ground level and treat with approved herbicide.

NOTES:

All tree work should be carried out to BS 3998 : 2010 'Tree Work - Recommendations'. The Wildlife and Countryside Act 1981 protects with certain exceptions all birds and their nests. It is an offence to destroy such nests or take or injure such birds in the course of tree works operations. If a tree is a bat-roost, a licence to work on the tree must first be obtained from the relevant Statutory Nature Conservation Organization (in England : Natural England 0845 601 4523.) Acting without a licence is likely to be justifiable only in acute emergencies threatening human life and where all other legally available option such as footpath diversion, fencing and warning signs cannot be applied.

Ivy and dead wood can be important ecological features. Ivy where specified in the work schedule should be treated as per BS3998 section 7.12. In summary this means trimming back (e.g. with a hedge cutter or secateurs) to near the line of the trunk or branches, and/or removing selected stems so that the structure of the tree can be inspected. In practice this may need to be done outside the bird-nesting season. Treatment of dead wood shall be as per section 7.3.2 – essentially shorten if possible, thus retaining some resource for invertebrates, etc.

10

Report prepared for scheme in 2004

David Smith Planning,
Chartered Town Planning Consultants
295, Upper Street,
Islington,
London,
SW13 9DA

My ref : 1-38-1815

21st December 2004

Dear Mr. Smith ,

Re: Oak Village, London, NW5

Thank you for your instructions in connection with the above, contained in a e-mail dated 6th October, 2004.

1) You subsequently sent me plans and elevations, (dwg. nos. DP10011, etc.) which show the proposal is to build a small office building close to ash trees which stand on adjoining land.

2) We made a site visit on 25th October, during which I made an inspection of the trees shown as T1 and T2 on the 'existing foundations' plan ref : SK01 (N.B.'SK01' does not appear on the appended plan), by PKS architects. The trees are about 10m in height and are both less than 500mm in trunk diameter. These dimensions, via BS 5837:1991 'Trees in relation to construction', derive root protection zones (RPZs) of 4.5m radius measured from the trunk. This guide allows a reduction of RPZ of up to 33% on one side only 'if deemed acceptable'.

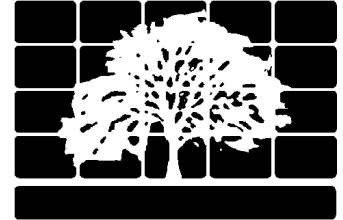
3) With a view to establishing clearly whether in this case such a measure is appropriate and thus can be deemed acceptable, I requested that two trial pits be sunk as close as possible to the exact locations of the proposed two piles closest to the trees, as shown on the proposed foundations drawing ref: DP10011. These locations are between 3-3.5m from the trunks of the trees. This exploratory work was subsequently carried out according to the following method statement:

.../...

Registered Consultant of the Arboricultural Association
John Cromar, Dip. Arb. (RFS), F.Arbor A.



Odile Chen



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.../...

4) *In digging trial pits to determine suitable pile locations, no roots over 20mm diameter shall be cut. Concentrations of 3 or more roots of 10mm to 20mm diameter within 150mm shall be deemed to be inviolate and shall entail the moving of the trial pit to a different location. Trial pits to determine suitable pile locations shall be taken to 0.7m below ground level.*

5) I am informed by architects that a ground beam that does not cut below the underside of the existing footings will be used. No exploratory work is therefore required to establish possible root presence along the line of the proposed ground beam. The table below summarises the site findings.

Location	Depth in mm.	Diameter of root in mm.	Quantity of roots	Visual assessment of live or dead
TP01	1000mm	-	No visible roots	-
TP02	1000mm	3-5mm	5-6	live

Please read in conjunction with appended 'existing foundations' plan SK01, by PKS architects.

5) Trial pit record photographs :



TP01



TP02

.../...

.../...

6) APPRAISAL - PROPOSALS IN RELATION TO THE ROOTS OF THE TREES

The trial pits encountered made ground below a concrete slab. Footings of the existing structure extend 600mm below ground level. It is apparent, and no great surprise, that almost no root development has taken place in these locations.

7) Made ground typically provides an easily penetrable medium in which roots often grow very well. The fact that no significant size roots were encountered in the trial pits and clearly no large diameter roots of ash whatsoever were encountered at locations close to the trunks of the trees indicates strongly that the major structural roots of the ash have developed entirely within the area beyond the rear of the existing garage. This is not unusual : trees on slopes often develop short prop roots on the downhill side, and more extensive roots on the uphill side, for mechanical loading reasons. On that basis alone it would not be unreasonable to predict that the major structural roots would be mainly in the area in the uphill side of this *de facto* barrier. This is also clearly supported by the trial pit findings.

8) The trial pit locations lie only a few metres from the trunks of the trees. As only very minor roots were encountered in TPO2 I consider it reasonable to extrapolate from this that it would be unlikely that larger roots lie further away from the trees in question, e.g., at the other pile locations. On this basis I therefore consider it reasonable not to have explored every proposed pile location.

9) From the above I conclude that piles installed at all proposed locations, and ground beams (spanning the various pile heads) and extending 600mm below ground level, would be very unlikely to encounter significant roots. It should be borne in mind that loss of minor roots takes place routinely in the course of a typical season in the course of natural processes. It is a well-established fact, over centuries of nursery practice, etc., that even large trees can tolerate some root loss and indeed experiments have shown that this loss in percentage terms can be (perhaps surprisingly) quite high without the tree registering any negative symptoms. In this case, I consider that the percentage root loss is likely to be below 1% or so. This can be put in proper perspective by research carried out by the Morton Arboretum (and others), and this has indicated that up to 30% loss of root volume is tolerated well by a range of species of trees.

10) APPRAISAL - PROPOSALS IN RELATION TO THE CROWNS OF THE TREES

Photographs 1 and 2 appended (1-38-1825/pho) show a yellow scaling pole of 6m in height standing below the crown of the tree (T1). I am informed by structural engineers that a piling rig of an overall height of no more than 3m could install 250mm diameter piles.

11) It can be seen from the plans and photographs that only very minor pruning is required to give a reasonable working clearance (say 1.5m) for constructing of the office building. Such pruning would be well within good arboricultural practice, as outlined in BS 3998;1989 'Recommendations for tree work', and the Arboricultural Association's 'Standard Form of Contract and Specifications for Tree Work', 1996. Such pruning would not negatively affect the appearance of the tree, and would have no effect on the health or vitality of the tree.

.../...

.../...

12) RECOMMENDED PRACTICAL MEASURES

Simple protective measures will be needed during demolition and construction :

- Demolish garages with hand held power tools only where any part of the garages lie less than 5m from any part of the tree .
- Prune the tree (T1) to clear the 'airspace' of the proposed office building plus a 1.5m 'envelope'. This will entail pruning cuts of no greater than 70-80mm diameter, and pruning cuts can and should be made to suitable side growth at least one third of the parent branches.
- Place continuous exclusion fencing 2m in height around the tree no further than 1m from the existing rear elevations of the garages to form a root protection zone around the trees.
- Install piles with a rig of a height that does not foul branches

13) I conclude that the constructing of the proposals in the position proposed would not entail the loss of or damage to the ash trees T1 and T2. Investigations have established that the trees can certainly be retained if a piled footing is used, and practical precautions are taken as outlined to protect the trunk, branches and root system of the tree during the construction process.

If I can be of further assistance, or any point needs clarification, please do not hesitate to contact me.

Yours sincerely,

A handwritten signature in black ink, appearing to read "John Cromar", with a stylized flourish at the end.

John C. M. Cromar

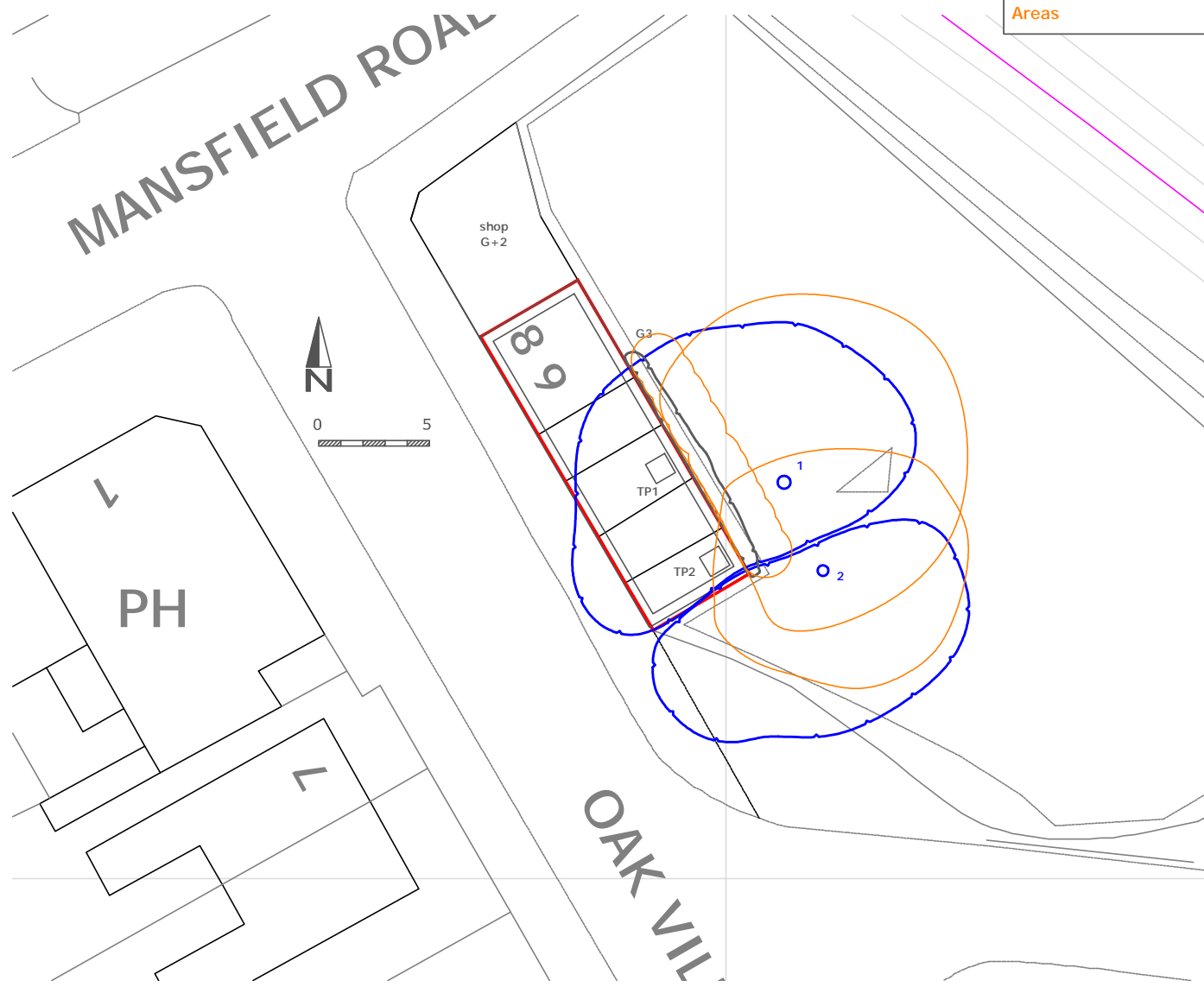
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Plans

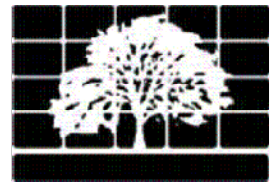
1-38-1815/P1

1-38-1815/P2

1-38-1815/P3



KEY TO PLAN SYMBOLS
 GREEN - High Value
 BLUE - Moderate Value
 BLACK - Low Value
 RED - Remove/Very short life expectancy
 ORANGE SHAPES: Root Protection Areas



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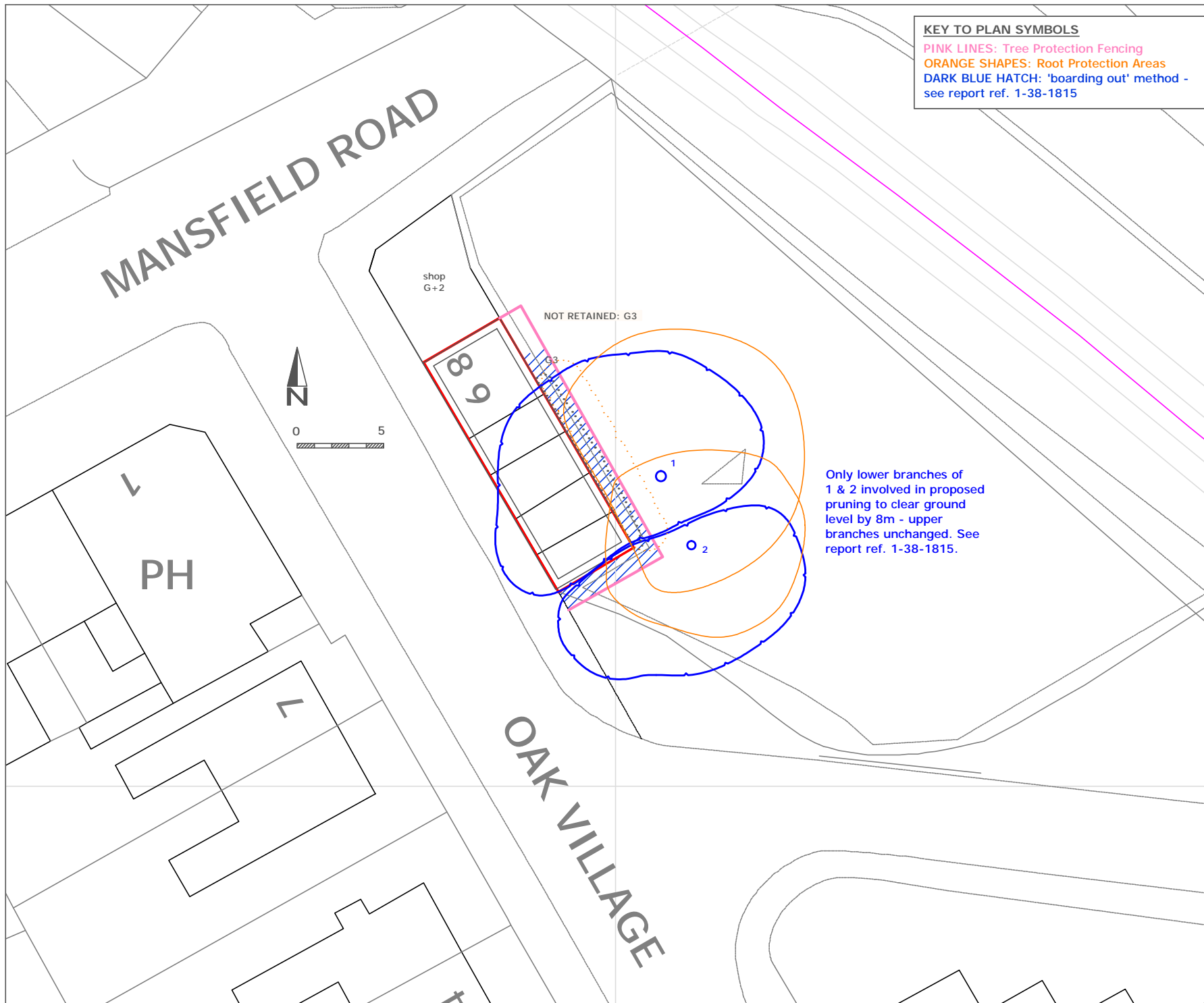
**TREE VALUE
 ASSESSMENT**
 as per BS5837:2012
 &
**ROOT PROTECTION
 AREAS**

for full details of
 tree value see
 report reference
 1-38-1815

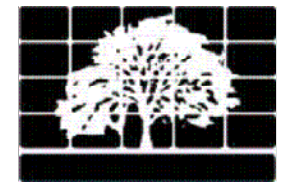
8-9, Oak Village,
 London, NW5 4QR

based on PKS
 Architects drg.
 630-003-01 supplied

ref: 1-38-3815/P1
 1:200 scale @ A3
 Jul 2014



KEY TO PLAN SYMBOLS
 PINK LINES: Tree Protection Fencing
 ORANGE SHAPES: Root Protection Areas
 DARK BLUE HATCH: 'boarding out' method - see report ref. 1-38-1815



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**TREE RETENTION
 and
 TREE PROTECTION
 MEASURES
 (Demolition Phase)**

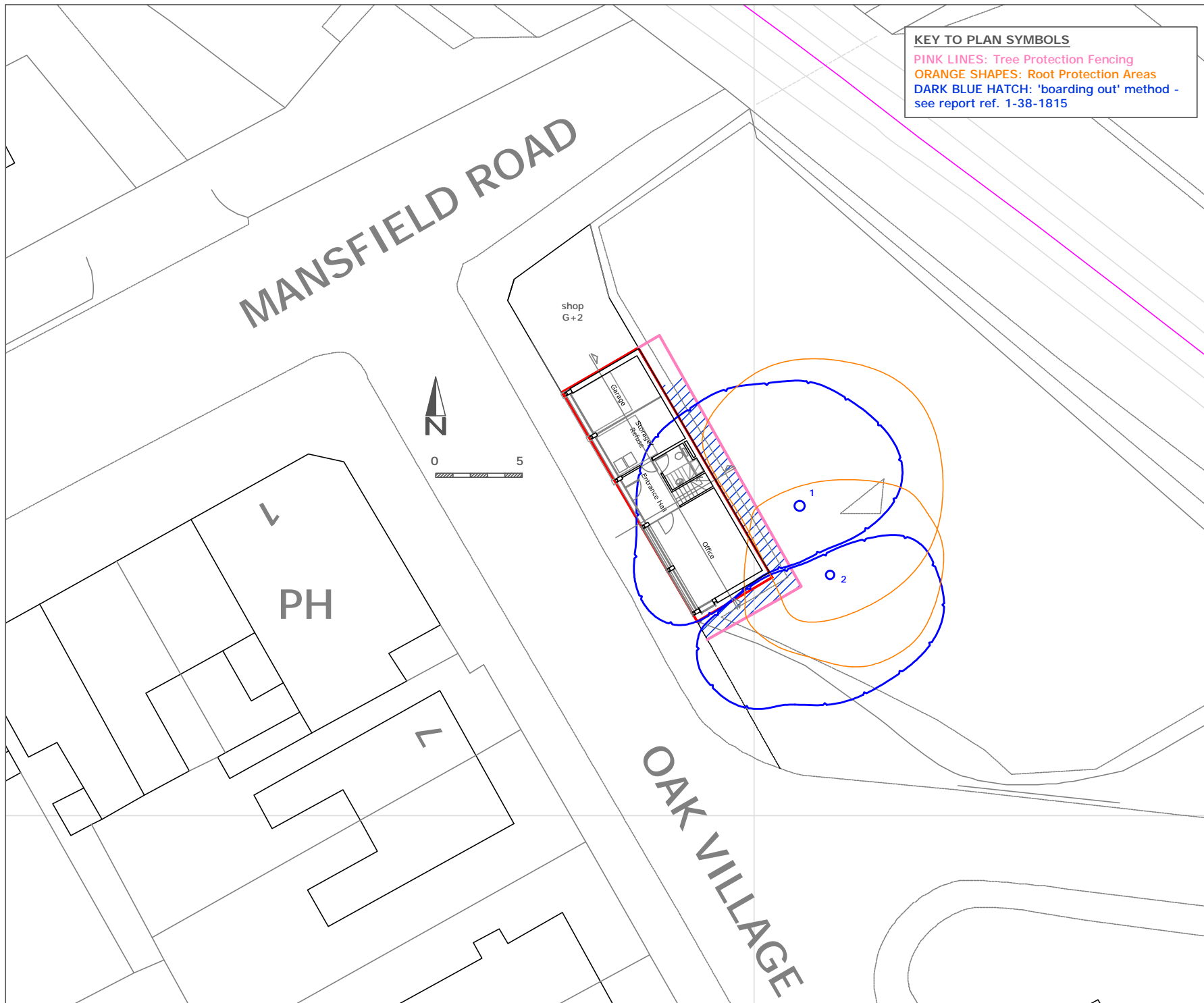
for fuller details of
 protection measures
 see report reference
 1-38-1815

8-9, Oak Village, London,
 NW5 4QR

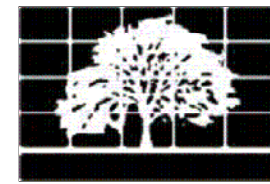
based on PKS Architects
 drg. 630-003-01 supplied

Only lower branches of
 1 & 2 involved in proposed
 pruning to clear ground
 level by 8m - upper
 branches unchanged. See
 report ref. 1-38-1815.

ref: 1-38-1815/P2
 1:200 @ A3 scale
 Jul 2014



KEY TO PLAN SYMBOLS
 PINK LINES: Tree Protection Fencing
 ORANGE SHAPES: Root Protection Areas
 DARK BLUE HATCH: 'boarding out' method - see report ref. 1-38-1815



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**TREE RETENTION
 and
 TREE PROTECTION
 MEASURES
 (Construction Phase)**

for fuller details of
 protection measures
 see report reference
 1-38-1815

8-9, Oak Village, London,
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based on PKS Architects
 drg. 630-003-02 supplied

ref: 1-38-1815/P3
 1:200 @ A3 scale
 Jul 2014