

SIDMOUTH STREET  
BLOOMSBURY  
LONDON

ARBORICULTURAL  
METHOD  
STATEMENT

PREPARED BY  
ACD  
ARBORICULTURE

FOR  
CREST NICHOLSON

ACD

Ecology

Arboriculture

Landscape Architecture

Written by:	M Welby
Checked by:	SD
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## 1. INTRODUCTION & BACKGROUND

- 1.1. Crest Nicholson instructed ACD Arboriculture in June 2012 to review the tree protection documents that were submitted with the original application and make recommendations and proposals for a functional solution that will suit Crest Nicholson's operational strategy. Particularly with regards to:
  - 1) Tree pruning
  - 2) Service routing and excavation
  - 3) No-dig construction for ancillary structures.
- 1.2. To achieve this, a meeting with the Tree Officer was held (16<sup>th</sup> July) and the proposals generally agreed upon. This report formalises the discussion and provides the required level of information to allow the pre-start conditions to be cleared.
- 1.3. **This revision (F) has been made to finalise the tree protection following provision of all service plans and the additional details of the cycle store and drainage, and must be read in conjunction with the appended tree protection plan.**
- 1.4. Piling has now been omitted from under the crown of T3 and an alternative solution is to be used.
- 1.5. All recommendations and proposals follow BS5837:2012 Trees in relation to design, demolition and construction- Recommendations (BSI 2012 British Standards Institute).
- 1.6. **Note:** During some supervised excavation about 3m to the east of T3, one root of approx. 120mm diameter was uncovered close to the Sidmouth Street footpath. Whilst it is a fair sized root, it must be noted that most of it will be removed through the erection of the approved building. The piling and drainage proposed will require about another 1m of this root's tissue to be removed. The author has carried out many such root pruning operations in the past and experience shows that removal of single roots such as this will not result in any significant detriment to the tree's health or its stability and is happy for it to be cut back to the proposed piling and tree protection fence line.

## 2. TREE PRUNING

2.1. The following tree surgery is proposed:

Tree number	Operation
1	Reduce crown spread over site to result in a canopy no less than 3.4m wide to the south.
2	Reduce crown spread over site to result in a canopy no less than 3.6m wide to the south.
3	Reduce crown spread over site to result in a canopy no less than 4m wide to the south and 5.4m wide to the east.
37	Reduce crown spread to north to result in a canopy no less than 5.8m wide in that direction.

2.2. This work will be carried out to BS3998 (BSI 2010 British Standards Institute).

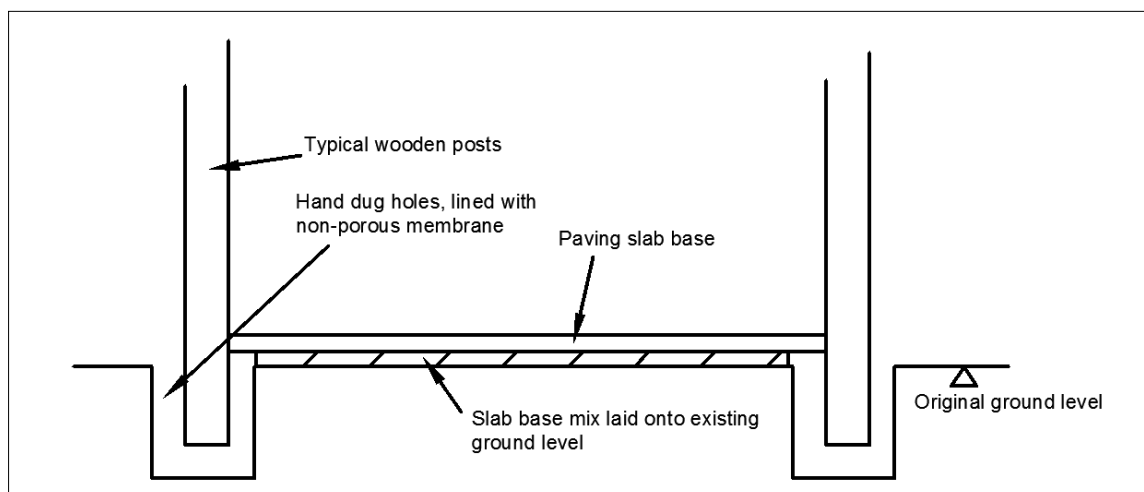
## 3. SERVICE ROUTING AND GROUND PROTECTION

- 3.1. Historically the site was heavily built upon, with hard surface and building covering much of the site. This is particularly relevant where retained trees are concerned, as root proliferation beneath surfaces varies extensively depending upon construction types and profiles.
- 3.2. The tree protection strategy submitted at the time of the planning application by CBA Trees included a requirement for ground protection where construction access forces encroachment into the notional circular root protection areas (RPAs) of retained trees. This raised an issue, in that the service runs for foul and surface water needed to run through the ground protection area.
- 3.3. Given the nature of the site, and the need to install the drainage, ACD visited site and carried out some investigation into the underlying ground and rooting environment (photos appended). It was found, through digging a trial pit, that there was no development of any visible roots in the underlying strata and that therefore the ground protection was not required, and there would be no impact upon the trees if the main drains were run through the route shown on the appended plan. The hoarding contractor who was also excavating in the same area supported the findings, and also noted that all the holes they had dug were made up of densely compacted hardcore.

- 3.4. Therefore it is proposed that the ground protection (both areas shown on CBA documents) is redundant and not necessary for the successful retention of the trees.
- 3.5. The main drainage run is shown on the plan for the northern section of the site, off Sidmouth Street, will then be installed in the margin between the building and the approved tree protection fence line. This approach will not result in any detriment to the large retained trees.
- 3.6. The tree on the southern section of the site, adjacent to Heathcote Road, is in similar situation although there is slightly more soft landscape immediately around the trunk. In this instance the proposed fence line will suffice and again, the ground protection is not required and shall be omitted. The foul and surface water trenches shall be dug hard up against either boundary (as shown on appended plan)

## 4. CYCLE STORE-CONSTRUCTION METHODOLOGY

- 4.1. A cycle store is proposed within the RPA of the false acacia next to Heathcote Street. Traditional construction methods will result in removal of underlying roots and damage to the tree. Therefore, sensitive no-dig methodology shall be adopted.
- 4.2. This specification is suitable for other low impact outbuildings and follows the recommendations of section 7.5 of the British Standard.
- 4.3. Structure to be installed as per engineers approved specification.



Indicative section of no-dig construction

### 4.4. Stages for construction:

- 1) Contact project arboriculturist to hold pre-start site meeting and 'toolbox' talk before starting work
- 2) Dismantle any tree protection fencing to allow access (to be taken down only when commencement of work is imminent)
- 3) Excavation to establish root post-holes. To be carried out by hand or with an air excavation tool.
- 4) Insert posts and fill holes with concrete
- 5) Lay non-porous membrane over ground to be covered by base slabs
- 6) Spread slab mix on top of membrane and lay slabs.
- 7) Re-erected fencing to protect area until concrete is set
- 8) When post and slabs are dry dismantle fencing and finish off structure.

#### 4.4.1. Arboricultural supervision will be employed during all work within the RPA

## **5. EXCAVATION FOR UTILITY TRENCHES WITHIN RPAS**

5.1.1. Where connections are required both the Sidmouth Street and the Heathcote Street the following methodology will be followed within the protected areas.

5.1.2. Stages for excavation within RPAs:

- 1) Contact project arboriculturist to hold pre-start site meeting, 'toolbox' talk and supervise the operation.
- 2) Remove TPF to allow access to area (if required).
- 3) Identify sensitive area.
- 4) Remove hard surface if necessary.
- 5) Excavate with no-tines bucket, or by hand, under close supervision.
- 6) If roots are found, clear by hand around them.
- 7) If roots found are greater than 25mm diameter then cover with damp hessian and keep moist until backfilled. If excavation requires all roots to be severed then proceed as below.
- 8) Cleanly sever smaller roots with bypass secateurs, loppers or pull cut saw at right angles to root. Avoid tearing or ripping the root.
- 9) Feed in services
- 10) Backfill as soon as possible to cover cut root ends.

24.2. If, for whatever reason, the project arboriculturist feels that a tree's stability has been compromised during the operation, then the LPA shall be contacted and the arboricultural officer (or appropriate landscape officer) notified. A decision can then be made as to the best way forward.

## **6. BOUNDARY WALL CONSTRUCTION WITHIN PROTECTED AREAS**

6.1. Structure to be installed as per engineers approved specification.

6.2. Stages for construction:

- 1) Contact project arboriculturist to hold pre-start site meeting and 'toolbox' talk before starting work
- 2) Tree protection fence to be taken down only when commencement of work is imminent
- 3) Excavation to establish root free sites for foundations to be carried out by hand.
- 4) In the vicinity of the tree stems, the location of roots will be determined. These will then be bridged using precast concrete lintels or similar
- 5) Remaining construction built on slab with no further excavation.

## 7. BIBLIOGRAPHY

BSI (2010). BS3998- Recommendations for Tree Work. London, British Standards Institute.

BSI (2012). BS5837: Trees in relation to design, demolition and construction- Recommendations. London, British Standards Institute.

Mark Welby PD Arb(RFS) F ArborA  
25 July 2012

*Revised 09.10.2012-MW: Tree protection plan and more details added.*

*Revised 15.11.2012-MW: Tree protection amended and more drainage details added.*

*Revised 28.11.2012 -MW: surgery for T3 amended for piling clearance.*

*Revised 05.12.2012 -MW: surgery spec amended.*

*Revised 11.12.12-MW: note at 1.6 added*

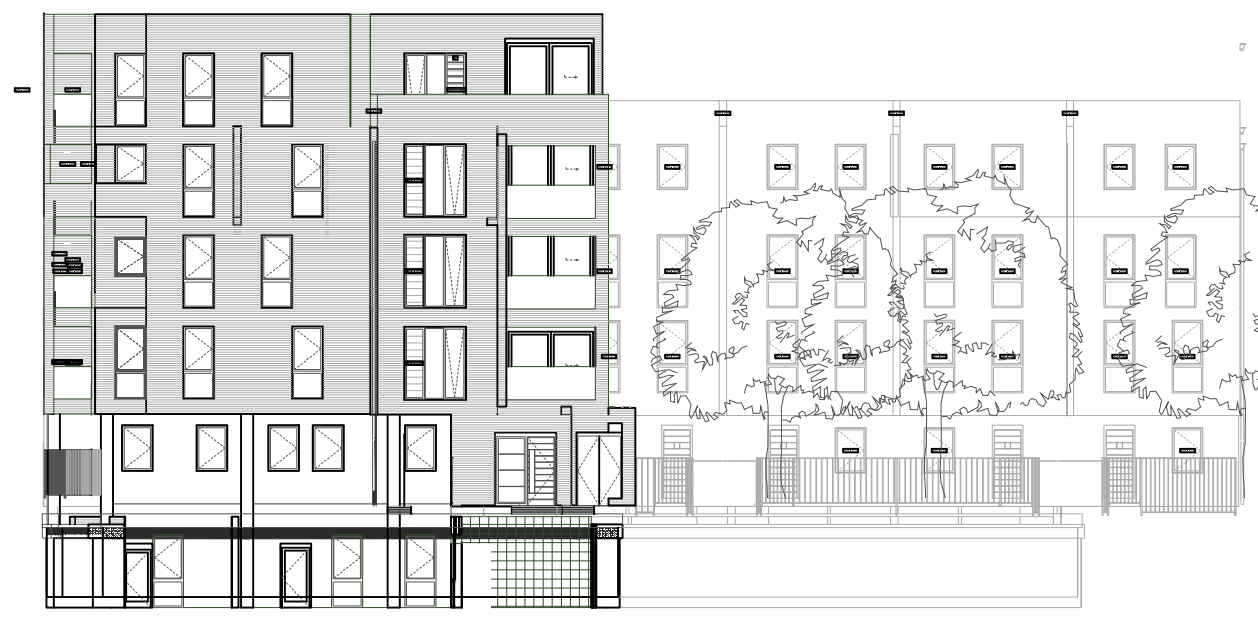
*Revised 14.12.12-MW: 1.4 amended*

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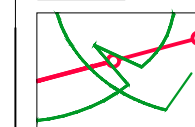


## **APPENDIX 1: TREE PROTECTION PLAN**



Sidmouth Street elevation with  
representation of trees after pruning  
scale 1:250@A2

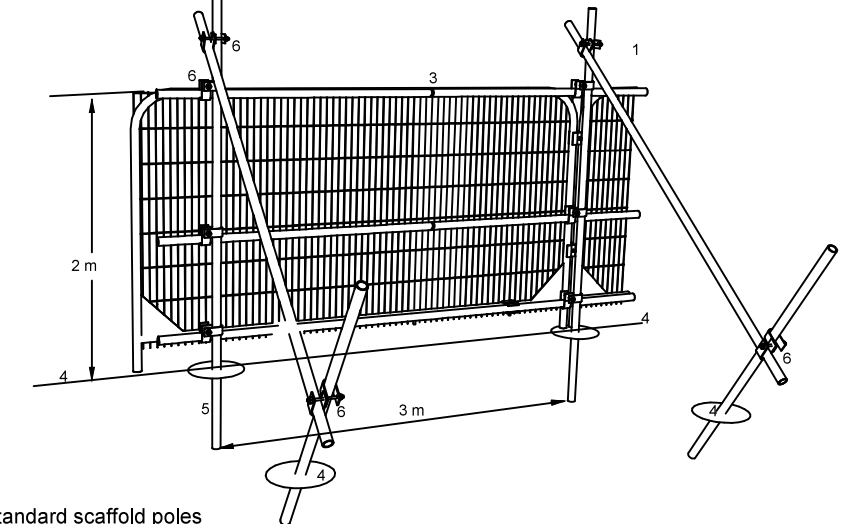
**LEGEND**



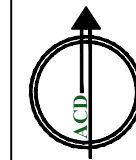
**TREE PROTECTION FENCING & CONSTRUCTION EXCLUSION ZONE**

**All fencing shall be installed prior to any plant activity on site whatsoever, including: demolition, utility installation, groundworks, and soil stripping**

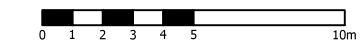
Once erected, all TPF will be regarded as sacrosanct, and will not be removed or altered without prior recommendation by the project arboriculturist and approval of the local planning authority. The TPF is suitable for areas of high intensity development, and shall comprise of interlocking weld-mesh panels, well braced to resist impacts by attachment to a scaffold framework that is set firmly into the ground. Should any alternative method of barrier construction be proposed, consultation with the project arboriculturist will be obtained to clarify the efficacy of the revised design prior to informing the local planning authority and obtaining their consent. Once the exclusion zone has been protected by barriers and/or ground protection, construction work can commence. All weather notices may be erected on the barriers.



- 1 Standard scaffold poles
- 2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
- 3 Panels secured to uprights and cross-members with wire ties
- 4 Ground level
- 5 Uprights driven into the ground until secure (minimum depth 0.6 m)
- 6 Standard scaffold clamps



The original of this drawing was produced in colour- a monochrome copy should not be relied upon.



D	14.12.12	Pump station moved	MW
C	05.12.12	Surgery notes and dims added	MW
B	28.11.12	T3 note added	MW
A	15.11.12	Drainage and fencing adjusted	MW
Rev	Date	Details	Drawn

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### RESTRICTIONS WITHIN TREE PROTECTION AREAS

Inside the exclusion area of the fencing, the following shall apply:

- No mechanical excavation whatsoever
- No excavation by any other means without arboricultural site supervision
- No hand digging without a written method statement having first been approved by the project arboriculturist.
- No lowering of levels for any purpose (except removal of grass sward using hand tools)
- No storage of plant or materials
- No storage or handling of any chemical including cement washings
- No vehicular access
- No fire lighting

In addition to the above, further precautions are necessary adjacent to trees:

- No substances injurious to tree health, including fuels, oil, bitumen, cement (including cement washings), builders sand, concrete mixing and other chemicals shall be stored or used within or directly adjacent to the protection areas of retained trees
- No fire shall be lit such that flames come within 5m of tree foliage.

## PHASING AND SUPERVISION OF DEVELOPMENT

Before any work starts on site, the tree protection measures shown on this plan are to be installed and a pre-start site meeting with the project arboriculturist, groundwork contractors and site manager. Following this meeting, the demolition and construction phases are subject to supervision from project arboriculturist during the following operations:

1. Excavation of any service trench through the protection area onto Sidmouth Street
2. Excavation of any service trench through the protection area onto Heathcote Street
3. Installation of the cycle store within the protected area
4. Removal of the fencing and access to, or works within the protected areas for any other reason

## WHY TREE PROTECTION IS NEEDED

- 1) **Soil compaction kills roots-** caused by plant movement and storage of materials within protected areas.
- 2) **Trenching severs roots-** many small roots grow within the top 600mm of soil. Even the removal of the top 200mm can cause damage.
- 3) **Soil pollution kills roots-** Dripping fuel storage or cement washings can contaminate the soil resulting in root death.
- 4) **Raising & lowering levels kills roots-** the soil used to increase levels can compact the underlying soil (see point 1). Lowering levels will remove roots causing damage to the tree.
- 5) **Bark and branch damage-** bark removal and branch damage can allow disease and fungi into the tree.

**The impact of any of the above can take years to show-** trees can have huge reserves of food and water.

scheme: Sidmouth Street,  
Bloomsbury, London  
client: Crest Nicholson  
drawing: Tree Protection Plan  
date: Oct 2012  
scale: 1:250@A2  
dwg no: CREST18118-03d  
drawn: MW checked: MW



## APPENDIX 2: TRIAL PIT PHOTOGRAPHS





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