Arboricultural Survey and Construction Integration Report

at

Sompting Village Primary School, White Styles Road, West Sussex, BN15 0BU

12th June, 2016

ADUR & WORTHING
PLANNING SERVICES

PLAN	AWDM/0996/16
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ARBORICULTURAL REPORT

LOCATION	Sompting Village Primary School, White Styles Road, Sompting, West Sussex, BN15 0BU	REF: **AR/3563/jq**
CLIENT	Pellings LLP, 24 Widmore Road, Bromley, Kent, BR1 1RY	DATE OF REPORT 12th June, 2016
REPORT PREPARED BY	J. Quaife, AA Registered Consultant Dip.Arb.(RFS), F.Arbor.A, CEnv.	DATE(S) OF INSPECTION 18th May, 2016
SURVEY INSPECTOR(S)	J. Quaife, AA Registered Consultant Dip.Arb.(RFS), F.Arbor.A, CEnv.	SHEET No. 1 of 5

LOCAL AUTHORITY	Adur and Worthing Councils
CONTACT	Arboricultural Officer

Please note that abbreviations introduced in [square brackets] *are used throughout the report.*

INSTRUCTIONS

Issued by – James Freeth of Pellings LLP, 24 Widmore Road, Bromley, Kent, BR1 1RY

TERMS OF REFERENCE – To survey those subject trees likely to be affected by the proposed installation of a modular building with recommendations for such tree removal, tree protection measures and working methods as may be appropriate.

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Summary

The proposal is to install a new modular building for additional classroom space requiring the removal of a group of trees is the only reasonable location, but by moving it forward into the site by some two metres, the road frontage hedge can be retained with obvious screening advantage. By also moving it some two metres to the east it will allow the retention of sufficient roots of the maple T1 for it to survive. The trees to the east can be protected by fencing and the two trees on each side of the entrance drive will need their crowns lifted to provide improved headroom.

No other tree protection measures are necessary apart from the peripheral path along the rear elevation being of No-Dig construction.

The revised proposal with the minor alteration of its position is sustainable in arboricultural terms.

Documents Supplied

- Pellings drawing ref: 250/017/003 dated 22/3/16

Scope of Survey

1.1 The survey is concerned with the arboricultural aspects of the site only.

1.2 The protection status of the trees on site was investigated and we are informed by the Council by telephone that there are no Tree Preservation Orders or Conservation Areas which apply.

1.3 The survey was undertaken in accordance with British Standard 5837:2012 Trees in relation to design, demolition and construction – Recommendations [BS5837].

1.4 The trees were inspected on the basis of the Visual Tree Assessment method expounded by Mattheck and Breloer (The body language of trees, DoE booklet Research for Amenity Trees No. 4, 1994).

1.5 Pruning works will be required to be in accord with British Standard 3998:2010 Tree work - Recommendations [BS3998].

Survey Method

2.1 The survey was conducted from ground level with the aid of binoculars.

2.2 No tissue samples were taken nor was any internal investigation of the subject trees undertaken.

2.3 No soil samples were taken.

2.4 No measurements of subject trees were necessary.

The Site

3.1 The topography of the site is level, although the trees to be removed are on raised ground behind a low curved retaining wall.

3.2 The site is ringed in blue on this extract reproduced from the Geological Survey Drift Map, Sheet 318/333, Brighton and Worthing (by permission of the British Geological Survey ©NERC. All rights reserved). The indicated soil parent material shown brown is a head deposit of clay.



C08/105-CSL British Geological Survey.
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3.3 The clay soil type is shrinkable, and is susceptible to compaction, which is highly detrimental to tree roots.

Subject Trees

4.1 The positions of the subject trees are depicted at Appendix A.

4.2 The trees are in three locations. The first group of 7 trees is growing on the footprint of the proposed new building, as shown in Photograph 2 at Appendix A. The second group is of 4 Silver birches which are unaffected by the construction, although they are referred to in the landscape plan. The third group is of T1, a Norway maple, and T2 a Sycamore, to each side of the entrance drive. Other than requiring pruning to lift their crowns they will be unaffected by the proposal. The subject trees are, but the smaller trees in the first group are unremarkable, and there are two stumps of removed trees.

Observations

5.1 The proposal is to excavate the ground where the new building is to be constructed so that its finished floor level is at, or very slightly above the existing level of the tarmac playground. Of necessity this will remove the first group of trees (Photograph 2 at Appendix A).

5.2 The drawn position of the building with the requirement for a 1.5-metre wide peripheral path along the rear and side elevations would mean removing the cypress hedge parallel with the rear elevation. This hedge provides good all-year-round screening and is a prominent landscape feature.

5.3 Accordingly there is a good advantage to retaining it. This can be achieved by moving the building footprint forward by at least 2 metres, as shown in orange at Appendix A. The ground behind should not be excavated and the path can be laid onto the original surface level with No-Dig construction. This would retain enough of the hedge's root system to sustain it.

5.4 There would be some root loss of the maple T1, but by moving the building footprint about 2 metres to the east, and retaining the original soil level onto which the west elevation path can be laid with No-Dig surfacing, a sufficient root mass would be retained to support the tree.

5.5 The four Silver birches are unaffected by the proposed construction, but may be subject to attention in the landscape plan.

5.5 The access for the installation will use the adjacent drive, with headroom improved by minor pruning to T1 and T2 (Photograph 1 at Appendix A), and all construction work and storage can be confined to the existing tarmac surface.

Recommendations

6.1 On the assumption that the revised layout will be adopted, the effect upon trees is as follows:

i) The 7 trees on the building footprint will be removed.
ii) The four Silver birches are retained subject to the landscape plan.
iii) There is scope to plant replacement trees subject to the landscape plan.
iv) The road frontage hedge can be retained.
v) The maple T1 can be retained.
vi) The crowns of the maple T1 and Sycamore T2 will be lifted to increase headroom over the drive (Photograph 1 at Appendix A) to a specification to be agreed with the Council's Arboricultural Officer.

6.2 The Root Protection Areas [RPA] of the subject tress do not apply as the four Silver birches will have more than enough ground protected by fencing, and the maple T1 is to have the proposed building moved to conserve a sufficient root mass. The larger tree to be removed from the proposed building footprint will have had primary root occupancy of the soil area concerned and its removal will be beneficial to T1.

6.3 The four Silver birches are to be fenced off in accordance with the specification at Appendix B on the line shown at Appendix A.

6.4 The peripheral path on the northern and western elevations of the proposed building will be laid using a No-Dig installation method as indicated in principle at Appendix C, on the original ground level. This will require adapted damp proofing to accommodate the level differential.

6.5 On the same assumption that the revised layout will be adopted, the required tree protection measures are as follows:

i) Fence off the four Silver birches shown at Appendix A with Tree Protection Fencing [TPF] to the specification shown at Appendix B.
ii) The excavation for the proposed building will only extend as far as the perpendicular edge of building footprint on the northern and western elevations. The excavation will be sheer and shuttered in necessary so as to protect the existing soil level.
iii) The path on the northern and western elevations will be laid in accordance with the No-Dig principles set out at Appendix C.

6.6 I have not been advised of the underground service routes, but it seems logical to suppose that they can be routed to the south to avoid any compromise to tree roots. Clearly if any underground service routes should need to enter a root system, the provisions of BS5837 and NJUG 4 should be employed and if necessary, further arboricultural advice sought.

6.7 The protection of the trees will also include recognition of other types of potentially damaging activities, such as the storage of materials (and other substances likely to be toxic to plants), parking, site-building requirements, and the use and parking of plant. Particular care and planning is necessary to accommodate the operational arcs of excavation and lifting machinery, including their loads, especially large building components such as beams and roof trusses. Operations like these have the potential to cause incidental damage and logistical planning is essential to avoid conflicts.

6.8 The constructional activities will be confined to the adjacent area of tarmac.

6.9 As a matter of course these points will be resolved in consultation with and subject to the approval of the planning authority through their Arboricultural Officer.

6.10 The sequence of works should be as follows:

i) initial tree works – tree removal, and pruning for working clearances
ii) installation of TPF
iii) site preparation
iv) installation of underground services
v) main construction, including No-Dig surfacing and hard landscaping
vi) removal of TPF
vii) soft landscaping including tree planting

Quaife Woodlands **Arboricultural Survey AR/3563/jq** **Appendix A**

Sompting Village Primary School, White Styles Road, West Sussex, BN15 0BU

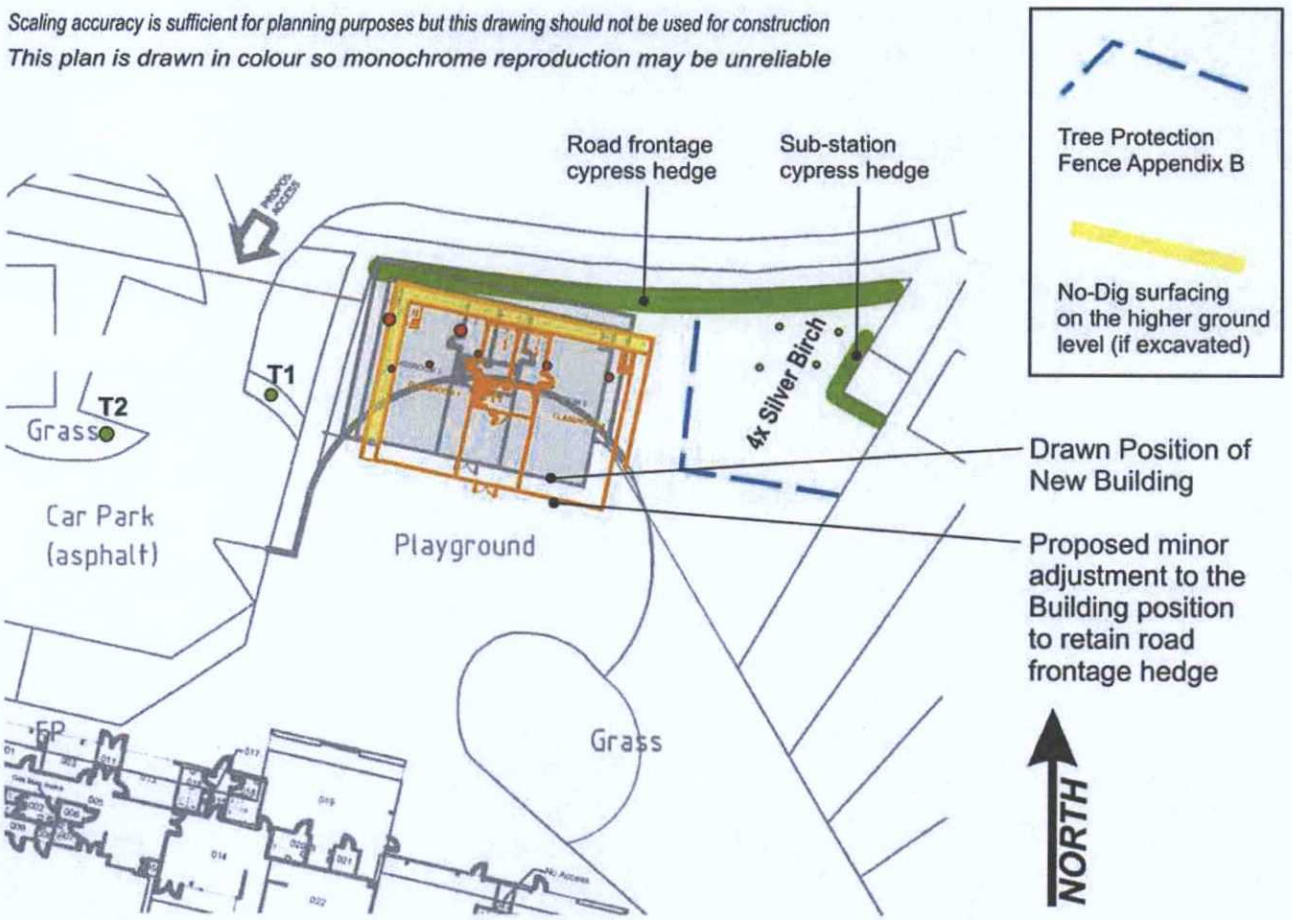
Site Plan - 18th May, 2016

Scale 1:500 approximately

0 10 20 30 40 50 metres

Scaling accuracy is sufficient for planning purposes but this drawing should not be used for construction

This plan is drawn in colour so monochrome reproduction may be unreliable





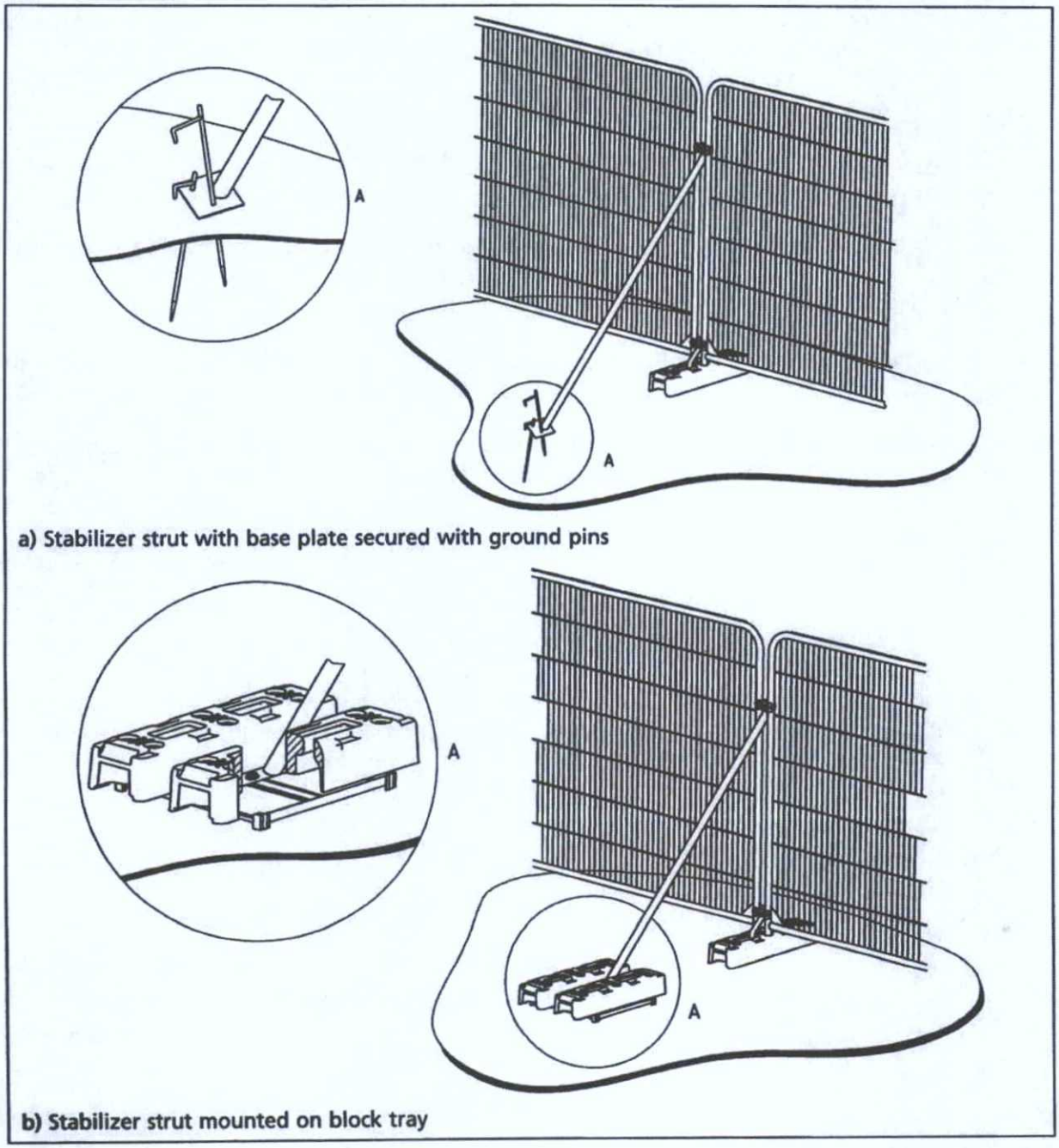
Photograph 1.
View of Maple T1 looking to the north-east showing the need to lift the crown over the drive. The eastern part of the crown of Sycamore T2 is in the left foreground, which may also need some light pruning



Photograph 2.
View looking to the north of the group of trees to be removed and showing the screening value of the road frontage hedge.

Tree Protection Fencing

Figure 3 **Examples of above-ground stabilizing systems**



a) Stabilizer strut with base plate secured with ground pins

b) Stabilizer strut mounted on block tray

Appendix C

Principles of No-Dig Surfacing Construction Method within a Root Protection Area [RPA]
(based on Arboricultural Practice Note 12 [APN12] and BS5837)

The construction works should progress in the following order;

- Kill ground vegetation using a systemic herbicide and gather dead organic material. Care must be taken to select (by reading the product label) a herbicide that will not affect the roots of retained trees and vegetation. This must be carried out by an appropriately trained operative.
- Remove major protrusions such as rocks and stumps (stumps should be ground out to minimise ground disturbance). Fill significant hollows with sharp sand.
- Lay a geotextile membrane directly onto the soil over the whole of the parking area or drive.
- Edging to the surfacing will be as detailed on page 3.
- Lay the Three Dimensional Cellular Confinement System [TDCCS] (e.g. InfraWeb TRP by InfraGreen Ltd, page 2 or similar). The specification will be prepared by an engineer.
- Cover the TDCCS with a no fines aggregate infill. This will be installed progressively so that machinery only moves on the laid sub-base. The aggregate will not tipped straight onto the TDCCS.
- Compact the sub-base to ensure binding with the TDCCS and to minimise future rutting of the surface.
- Lay a geotextile membrane directly onto the sub-base over the parking area or drive.
- In any event but certainly if the proportion of RPA covered by No-Dig surfacing is more than 20%, the surfacing must be permeable. This can be achieved with brick paviours on a dry bed and grouted with kiln-dried sand, or porous or perforated asphalt or concrete.

Schematic Diagram of a No-Dig Surface

