

Havant and Southdowns College Bancroft Way – Tree Constraints

Dear Millie

Please find my comments below relating to Havant College Bancroft Way to widen the footway adjacent to the college boundary and the installation of a replacement perimeter fence.

Havant College are in the process of dedicating a strip of land to Hampshire County Council for highway purposes footpath and re fencing to the perimeter of the college grounds.

These comments should be read in conjunction with the provided site plan and tree schedule.

The proposal requires the construction of a new footpath and perimeter fence.

The proposed new fence and widening of the foot path passes close to mature trees and it uses the route of an existing in situ fence and existing highway. The proposed project does not require the removal of any trees.

Notes on the existing footpath and fence:

- The existing footpath is constructed to adopted highway standards using a traditional method of construction.
- It is extensively used by pedestrians.
- The current fence in place is of a chain link construction
- Trees in this area are managed by the college and they should be inspected as part of a H&S condition survey.

The construction activity (widening of the footpath and installation of a new fence) is likely to affect the trees in this area if appropriate protective measures are not taken.

Proposals to mitigate disturbance to the onsite trees:

- **Arboricultural supervision**

An arboricultural consultant should be appointed to advise on the tree management for the site and to attend:

1. A pre-commencement meeting with the project engineer and contractor before any work starts.
2. Regular supervision visits to oversee the agreed tree protection.
3. Further supervision visits as necessary to oversee any unexpected works that could affect trees.

- **Protective fencing**

The RPA surrounding retained trees that must be protected from above and below ground disturbance by the construction activity. In practice, this can be done by any combination of fencing and ground protection, to be finalised and agreed at the pre-commencement meeting. Whether the RPA is protected by fencing or ground protection, all the protective measures should be installed before the start of any site works that could affect trees. No protective measures should be removed or temporarily dismantled without consulting the supervising arboriculturist.

Where it is not practical to protect the RPA by the use of fencing alone, BS 5837 (2012) allows for the fencing to be set back and the soil protected by ground protection. This allows improved access during construction, with the ground protection preventing damage to the RPA outside the protection of the fencing.



Example of Heras type protective fencing

- **Special surfacing and construction**

BS 5837 (2012) confirms that new surfacing can be installed within RPAs, but it has to be carried out with care. These operations are potentially damaging to trees because they may require changes to existing ground levels, resulting in localised soil structure degradation and/or disrupt the efficient exchange of water and gases in and out of the soil. Older trees are much more prone to suffer from such changes than young and maturing trees. Adverse impact on trees can be reduced by minimising the extent of these changes in RPAs. Generally, the most suitable surfacing will be relatively permeable to allow water and gas movement, load spreading to avoid localised compaction and require little or no excavation to limit direct damage. The actual specification of the design is an engineering issue that needs to be considered in the context of the bearing capacity of the soil, the intended loading and the frequency of loading. The detail of product and specification are engineering issues and must be provided by appropriate specialists.

BS 5837 (2012) sets out that no-dig, three dimensional cellular confinement systems can be used as the basis for extending hard surfacing into RPAs. It is my experience that this type of surfacing can be installed in the majority of situations without any significant adverse impact on adjacent trees, provided that proper consideration is given to all the circumstances.

Details of the method for laying the product can be found on the product website – www.geosyn.co.uk and should be followed; however other products are available and below is an outline of the product and the steps taken for installation:

- The heavy-duty plastic that can be pulled apart to open into cells.
- These are then filled with washed stone, after the product is spread over the ground and pinned in place.
- A base layer that acts as a floating raft, spreading the load across the whole construction width.
- The base layer can be topped with a variety of finishes.



Photo shows Cell-web in situ being back filled.

Once the sub-base has been formed, the load spreading construction is installed on top without compaction. In principle, the load spreading formation will normally be cellular and filled with crushed stone, although the detail may vary with different products. In this instance my belief is that the preferred finish for the footpath is tarmac. Tarmac is acceptable due to the minor changes in the surface coverage within the RPA of the trees – adequate gaseous and moisture exchange is achievable in this setting.

Edge retention in RPAs must be designed to avoid any significant excavation into existing soil levels BS 5837 (2012)). For this project the use of wooden boards is recommended, depending on the expected loading of the surfacing. A permeable soil fill can then be used to align the grade back down to the existing soil level.

All highway excavations for landscaping or re-surfacing works within RPAs must be carried out following the guidelines set out in NJUG Volume4 (National Joint Utilities Guidance Volume 4 *Guidelines for the Planning, Installation And Maintenance Of Utility Apparatus in Proximity To Trees* issue 2)

Replacement of the perimeter fence

The installation of the new fencing will be laid along the exact line of the existing fence, this should not cause an issue in terms of subterranean disturbances to the RPA of the trees on site as long as careful removal of the existing fence and installation of the new fencing is observed.

Installing a fence within a close proximity to trees comes with its own unique challenges; There is potential for the root system to be damaged while digging the for the fence – in this instance the new fencing will utilise the exiting post holes or where extra maybe required then hand digging will be used so as to avoid excessive disturbance to the RPA.

All roots greater than 25mm diameter should be preserved and worked around. These roots must not be severed unless absolutely necessary following approval from the Council's Arboricultural Officer. If after consultation severance is unavoidable, roots must be cut back using a sharp tool to leave the smallest wound possible.

Careful hand digging will be employed within the RPAs with extreme care being taken not to damage tree roots and root bark. Exposed roots if left overnight will be covered to offer protection from the elements.

Tree Works

It has been noted that some facilitation tree works will be required to enable the installation of the fence and to avoid damaging the canopy of the trees. These works must be discussed and agreed in writing with a suitably qualified tree surgeon prior to any development being undertaken on site.

All tree pruning must conform to BS3998 (2010) *Recommendations for Tree Works*, and must use target pruning in accordance with best practice.

Conclusion

- A no-dig construction is required for the widening of the path where it falls within the RPA of the adjacent trees.
- Where possible the path should be routed away from any mature existing trees giving as much clearance as possible.
- A pre commencement meeting will allow for tree protection to be set out and adjusted where necessary.
- Site monitoring will ensure that the correct methods are employed when installing the shared footpath.
- Trees to form part of the H&S inspection criteria as managed by Havant and Southdowns College.

Author on behalf of Havant Borough Council February 2018.
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