

WINNHAM FARM THE THICKET PORTCHESTER FAREHAM

ARBORICULTURAL IMPACT ASSESSMENT

for



Ecology
Archaeology
Arboriculture
Landscape Architecture



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1. Executive Summary

- 1.1. This report has been compiled to provide arboricultural support for an outline application. The layout is currently illustrative. Once a layout has been finalised the arboricultural package of works will be updated with a supporting Method Statement and Tree Protection Plan.
- 1.2. This report has been revised 3rd August 2020 to reflect a revised site layout. The existing tree survey has been reviewed and is appropriate for use, given the outline nature of the application and tree constraints being limited to the site boundaries. At the detailed design stage, the tree survey will be reviewed and updated.
- 1.3. This impact assessment is intended to evaluate the direct and indirect effects of the proposed design on the trees on site, and where necessary recommends mitigation.
- 1.4. The development proposals are in accordance with BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'. Adequate protection can be provided to ensure all retained trees are protected throughout development in the form of barriers and/or ground protection.
- 1.5. A number of category 'B' trees have been identified for removal within one of the developable areas. These trees are internal to the site and have limited visibility from views outside the site. The site is bounded by many established mature individuals which limit views into the site. The removal of these trees is to be compensated for through extensive replanting as part of the wider landscape proposals.
- 1.6. All remaining trees of 'A' and 'B' category trees are to be retained and protected throughout the development.
- 1.7. Where proposed new hard surfaces encroach into the RPA of trees highlighted for retention, sensitive surface removal/construction will be required.
- 1.8. Number of trees to be removed as a direct result of the current illustrative design (see section 4 for details):

BS Category	Number of individual trees	Tree Groups
U	~	~
A	~	~
B	~	1
C	2	2

- 1.9. The relationship between the buildings and retained trees is sustainable and does not result in any situations which may result in unreasonable pressure to prune requests from future occupants.
- 1.10. An Arboricultural Method Statement (AMS) will be compiled in conjunction a Tree Protection Plan (TPP) for the purpose of feasibility and planning, as per Figure 1 of BS5837:2012. These detail any mitigation which will be necessary to ensure the protection of retained trees throughout the development.

2. Introduction

- 2.1. ACD Environmental was instructed in September 2017 to prepare the following impact assessment by Miller Homes. The report has been revised 3rd August 2020 to a revised site layout. The layout amendments have been made following commentary from Fareham Borough Council and onsite archaeological findings which have resulted in the open space being sited elsewhere. The arboricultural impacts are no greater than previously assessed and the proposals remain sustainable.
- 2.2. This report is based on the recommendations given in BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.
- 2.3. Data is extracted from, and reference should be made to, the tree survey which preceded this report. (ACD Ref: MILL21118tr)
- 2.4. This assessment is based upon the supplied illustrative landscape layout drawing. The Master Plan is illustrative; however, the landscape parameter plan is to be conditioned and will provide more certainty about the retained trees.
- 2.5. No details have been supplied or sought of any statutory protection which may cover the subject trees.
- 2.6. The controlling authority is Fareham Borough Council, who can be contacted at:

Civic Offices, Civic Way, Fareham, Hampshire, PO16 7AZ. (01329) 236 100

3. Arboricultural Impact Assessment

- 3.1. The site is to be redeveloped through an Outline planning application with all matters reserved (except the means of access) for residential development, comprising new buildings providing up to 350 dwellings; the creation of new vehicular access with footways and cycleways; provision of landscaped communal amenity space, including children's play space; creation of public open space; together with associated highways, landscaping, drainage and utilities.
- 3.2. This impact assessment is intended to evaluate the direct and indirect impacts on the trees on the site in relation to the Landscape Parameters Plan, reference 2495-01/PS-01 rev C. Where appropriate, arboricultural mitigation is proposed with details given of any issues to be addressed by an arboricultural method statement to ensure the development is suitable in arboricultural terms.
- 3.3. Any potentially damaging activities proposed in the vicinity of retained trees are identified, such that mitigation to significantly reduce or avoid this impact can be detailed in the Arboricultural Method Statement and Tree Protection Plan as recommended in BS5837:2012 section 5.4.2. These documents being compiled for the purpose of condition clearing.

3.4. The tree survey for the site is at Appendix 2 of the Tree Report for the site ACD reference MILL21118tr.

3.5. Those trees which are to be removed are shown with a red dashed canopy outline, and a dashed emblem around the trunk on the Arboricultural Impact Assessment Plan ACD reference MILL21118-02.

3.6. Evaluation of impact of proposed tree losses

3.6.1. In relation to the conception and design of development proposals, BS5837:2012 section 5.1.1 states: The constraints imposed by trees, both above and below ground should inform the site layout design, although it is recognised that the competing needs of development mean that trees are only one factor requiring consideration. Certain trees are of such importance and sensitivity as to be major constraints on development or to justify its substantial modification. However, care should be taken to avoid misplaced tree retention; 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.

Table 1: Trees to be removed as a direct consequence of development

BS Category	Number of individual trees	Tree Groups
U	~	~
A	~	~
B	~	1
C	2	2

3.6.2. Those trees which are to be removed are shown with a red dashed canopy outline, and a red cross over the trunk on the Arboricultural Impact Assessment Plan ACD reference MILL21118-02.

3.6.3. A number of category 'B' trees have been identified for removal within one of the developable areas. These trees are internal to the site and have limited visibility from views outside the site. The site is bounded by many established mature individuals which limit views into the site. The removal of these trees is to be compensated for through extensive replanting as part of the wider landscape proposals.

3.6.4. All the remaining trees proposed for removal are in the two lower categories ('C' & 'U') and as such it is judged that they are not of a quality that should present any constraint to development of the site.

3.6.5. In terms of the effects of the tree loss required to implement the design, the trees to be removed are all located well within the interior of the site, and therefore will not have any significant adverse impact on the surrounding area. Any impact and loss of amenity which may be felt locally will only be short term.

- 3.6.6. It is therefore deemed acceptable to remove the listed trees and, as part of the detailed landscape design for the scheme, include suitable and sustainable replacements as and where appropriate.

3.7. **Protection for retained trees**

- 3.7.1. BS5837:2012 section 6.2.1. states: 'All trees that are being retained on site should be protected by barriers and/or ground protection (see 5.5) before any materials or machinery are brought onto the site, and before any demolition, development or stripping of soil commences. Where all activity can be excluded from the RPA, vertical barriers should be erected to create a construction exclusion zone. A specification for protective fencing is given on the Tree Protection Plan. This consists of interlocking weld-mesh panels (e.g. Heras) well braced by attachment to scaffold pole uprights driven 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.

3.8. **Barriers**

- 3.8.1. BS5837:2012 figure 2 recommends a default specification for protective barrier. This is a weld mesh panel design, mounted upon a well braced scaffold framework. This is perfectly adequate for this site where there are to be areas of high intensity development. Given the scale of the site, where it is likely there will be much lower pressure in terms of construction activity (such as future rear gardens), it is suggested that 1.2m chestnut pale fencing (or similar) clearly indicated as Tree Protection Fencing by signage would be entirely adequate. All tree protection fence should be erected before any works start on site whatsoever.

3.9. **Demolition**

- 3.9.1. To ensure damage does not occur to trees highlighted for retention, tree protection fencing must be erected prior to ANY plant machinery entering site whatsoever. This should be subject to a pre-commencement site meeting between the developer, their project arboriculturist and a representative from the Local Authority. No special demolition procedures need be observed on this site, other than respecting the tree protection fencing.

3.10. Permanent New Hard Surfaces within RPAs

- 3.10.1. Whilst a detailed design has not been finalised permanent new hard surfaces are to be sited outside the RPAs of trees identified for retention.
- 3.10.2. Should it be required within the RPAs of retained trees, to minimise potential impact on the underlying rooting environment, sensitive surface construction will be required in the form of a 'no-dig' surface solution.
- 3.10.3. As per the recommendation of BS5837:2012 section 7.4.2.3, the new permanent hard surfacing should not exceed 20% of any existing unsurfaced ground within the RPA.
- 3.10.4. The use of a three dimensional cellular confinement system, such as 'Cellweb' is an acceptable approach, which aims to fulfil the above design criteria. This system maintains the passage of oxygen and water to root systems; avoids root loss through severance or asphyxiation and minimises the potential for soil compaction. It is achieved by laying a Geotextile membrane directly onto unchanged soil levels, with a three dimensional cellular confinement system ('Cellweb') laid on top filled with no fines granular fill, with a porous finishing surface.
- 3.10.5. Retained trees must first be protected during all stages of the development including demolition, by the erection of suitable fencing. Installing the surface may require the re-positioning of the tree protection fencing to a secondary location. This should be carried out under on-site supervision of the project arboriculturist.

3.11. Construction within RPAs

- 3.11.1. BS5837:2012 states at section 5.3.1: 'The default position should be that structures (see 3.10) are located outside the RPAs of trees to be retained. However, where there is an overriding justification for construction within the RPA, technical solutions might be available that prevent damage to the tree(s) (see Clause 7). If operations within the RPA are proposed, the project arboriculturist should:
 - a) demonstrate that the tree(s) can remain viable and that the area lost to encroachment can be compensated for elsewhere, contiguous with its RPA;
 - b) propose a series of mitigation measures to improve the soil environment that is used by the tree for growth.'
- 3.11.2. The construction zones shown on the illustrative masterplan have been sited outside the RPAs of trees identified for retention.

3.12. Services

- 3.12.1. It is fundamental to tree protection that infrastructure design is sensitively approached, as trenching close to trees may damage roots and affect tree health and stability. Details of services have not been provided at the time of writing. The Tree Reference Plan, showing the constraints posed by retained trees will be passed to the infrastructure engineers to inform their design, ensuring that all services avoid areas of potential conflict. As per BS5837:2012 Figure 1, once further details become available as part of the detailed/technical design for the site, the TPP and AMS will be compiled to incorporate these details for services for inclusion in the Tender documentation.

3.13. Levels and Landscaping

- 3.13.1. Full details of any changes in ground levels on site remain to be finalised. Any alterations to levels close to trees may damage roots and affect tree health and stability. Unless no-dig methodology is proposed for installation of surfaces within RPAs the original levels in these areas must be noted, retained, and integrated into the engineering design of the site. Landscaping operations within the RPAs of retained trees must be carried out in a sensitive manner and be subject to a detailed method statement and arboricultural supervision.

3.14. Boundaries

- 3.14.1. All plot boundaries will need to be designed, positioned, and installed to avoid damage to retained trees. When within RPAs, this will include hand excavation of all post holes, and the lining of any post holes with a non-porous membrane to stop leachates from the concrete damaging tree roots.

3.15. Supervision & monitoring

- 3.15.1. The development process should be subject to arboricultural supervision and monitoring, especially areas where incursion into the RPA of retained trees is required. Therefore, a pre-commencement site meeting is advised with monthly site monitoring visits. Supervision is recommended during the installation of all special details, such as no-dig surfaces and construction. This should be detailed in the approved method statement and to provide comfort to the LPA.

4. Conclusion & Recommendations

- 4.1. The illustrative masterplan is in accordance with BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'. Adequate protection can be provided to ensure all retained trees are protected throughout the development.
- 4.2. Once the layout has been finalised the arboricultural package of works will be updated with a supporting Method Statement and Tree Protection Plan.
- 4.3. Any comments and recommendations made in section 3 should be noted and due consideration be given to the phasing and operational impact (and viability) of special construction techniques.
- 4.4. Any fencing and other tree protection measures should be erected after tree surgery but before any demolition or construction contractor enter the site, and before any soil stripping takes place. It is recommended that protection measures are monitored during the development process by a representative of ACD Environmental or an alternative consultant acceptable to the LPA, who should be responsible to both the developer and the LPA for the enforcement of the protection as agreed by both parties.
- 4.5. There must be no changes in levels, service routing, machine activity, storage of materials or site hut positioning within areas to be protected and the protective fencing must remain in position for the duration of the construction process.
- 4.6. Surgery may also be required in order to allow trees to be retained close to structures, to allow access for construction or future site traffic, or in the interests of the future health and safety of the trees and users of the site. Detailed recommendations for surgery should be provided prior to site commencement. All surgery should comply with BS3998:2010 or more recently accepted arboricultural good practice.

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Arboriculturist

19 October 2017

Revised 3rd August 2020 to reflect a revised Parameters Plan.

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