Tree Report

Proposed New Dwelling, 1 Moorland Close, Market Bosworth
Planning Reference: 09/00044/FUL

1.0 Introduction

1.1 In response to the letters of objection regarding the proposed new dwelling at 1 Moorland Close, and its detrimental impact on an existing tree within the garden of 5 Back Lane. This report sets out the reasons why these objections should be disregarded.

1.2 An outline application for a dwelling on this site, dated 8 June 2005, was refused on the grounds of parking provision, scale and massing and a lack of monetary contribution towards public open space facilities. The tree was not considered by the planning department to be a reason for the refusal of this scheme.

1.3 At this time the arboriculturalist employed by the Council, a Mr John Vernon, visited the site and reported that in his opinion there were no problems with the proximity of development to the tree. The outcome of this report led the client to continue to pursue planning permission for a dwelling on this site, with the revised proposal concentrating on the stated reasons for refusal.

2.0 Assessment of the Tree

2.1 An independent arboriculturist was consulted in order to assess any impact the proposed dwelling would have on the tree.

2.2 BS 5837:2005, Trees in Relation to Construction states:

> *"In order to avoid damage to the roots or rooting environment of retained trees, the RPA should be plotted around each … tree. This is a minimum area in m² which should be left undisturbed around each retained tree."* [1]

2.3 The Root Protection Area (RPA) of a tree is calculated using a formula found in clause 5.2.2 of BS 5837:2005 giving an area in m². Clause 5.2.3 states the calculated RPA should be capped to 707m² which is the equivalent to a circle with a radius of 15m² or a square with 26m sides. Drawing 8530 P012 shows the impact of this RPA represented by a circle on the proposed scheme. Although this is a simple way to graphically represent the RPA, it must be remembered that the RPA is an m² measurement.

2.4 BS5837:2005 recognises that there may be a need to undertake demolition and construction works within a RPA and Clause 5.2.4 provides information on a number of factors which may change the shape of the RPA, but not reduce its area.
For individual open grown trees, which the tree in question is, it may be acceptable to offset the RPA by 20% in one direction. Drawing 8530 P013 shows the implications of the revised RPA on the proposed scheme.

2.5 Soil type and structure are also a factor to consider when calculating the RPA. In this instance much of the soil which is to be excavated to make way for the new development was imported to the site approximately 20 years ago when the host property was constructed to improve the levels of the garden. Although this is subject to site investigation, it is likely that any rooting found in this up-filled area is going to be insignificant. Site trial trenches and/or tree radars could be used to prove this.

2.6 It is also possible in some instances to offset a small incursion into the RPA within adjoining land. The proposed scheme has a 14m² incursion which equates to 2% of the RPA. Drawing 8530 P014 shows how it is possible to accommodate the required RPA within the garden of the proposed dwelling.

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[1] British Standards Institution., 2005. BS5837:2005, *Trees in Relation to Construction*. (Clause 5.2.1) London: BSI

3.0 **Solutions allowing construction within the RPA**

3.1 Following discussions with the independent arboriculturist, a number of construction methods have been recommended to ensure that the tree roots are protected both during the construction process and once the house is in use.

3.2 Using a raft foundation system supported by a matrix of piles will minimise excavation and cause minimal disruption to the tree roots whilst maintaining the balance of gaseous and aqueous exchange required by the root system.
It is possible to utilise a piling system which is flexible in the positioning of the piles and is able to react immediately to required changes in position of the piles on site to avoid the trees roots. A raised deck is available which permits the diversion of rainwater to an under slab irrigation system whilst ensuring the roots are relieved of any ground bearing pressure. Small piling rigs are used during construction limiting noise, vibration and short term pressure on the root system.

3.3 Tree root protection systems are available and provide a flexible and permeable solution for protecting tree roots whilst creating a strong stable surface.
By using a tree root protection system, which conforms to the BS 5837:2005 guidelines, for the hard landscaped areas to the rear of the proposed dwelling the problems of the compaction of sub-soil which causes oxygen and nutrient depletion is removed, as is any damage caused by excavation as only the surface vegetation need be removed.
This system can be used as both a permanent solution for hard landscaped areas, and as a temporary surface where required during construction to avoid any disruption or damage to the trees root system.

3.4 Redesigning the founding storey of the proposed dwelling could reduce the incursion into the RPA and therefore further minimise the impact of the proposal on the tree

4.0 Conclusion

4.1 In conclusion there are provisions made within the British Standard to allow construction works within the RPA of a tree. A method statement written by a qualified arboriculturist would be need to be prepared to demonstrate the best way to accommodate the new dwelling whilst minimising any detrimental affect on the tree. This would include procedures which would need to be employed whilst excavating the site, constructing the dwelling and maintaining the plot once the dwelling is inhabited.