



Tree Dimensions

Arboricultural Advisory & Consultancy

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Arboricultural Impact Assessment and landscape proposals for the agricultural development at Les Beaucamp de Haut for Mr and Mrs J Lucas.

1.1 Instruction.

I have been instructed to undertake an arboricultural impact assessment at the proposed development at Les Beaucamp de Haut for Mr and Mrs J Lucas.

The assessment is to determine the potential impact to the trees, their useful life expectancy and suitable protection measures to be employed prior to and during development. In addition to this information, I have included relevant remedial husbandry works as necessary.

As part of the design concept, I have identified areas for new tree planting to act as a screening buffer from Les Beaucamps Road.

2.1 Overview.

Les Beaucamp de Haut is a large property set within agricultural fields and enjoys a high degree of privacy. Having been involved with tree management on this property for previous owners since 1989 I have extensive background knowledge from the early removal of diseased Elm trees, the management of existing mature trees and the concepts behind the extensive replanting within the property. The area had a high number of Elm species that had succumbed to Dutch Elm Disease, the loss of this specie resulted in poor young tree stock to supersede the decline. The original owners of the property were farmers and had not undertaken any deliberate planting of trees only allowing some to naturalise. Subsequent owners have proactively introduced new tree planting to enhance the property and provide privacy for the residents. The dense tree planting to the south of the property was undertaken by a gentleman who, due to his restless isolation, sought to completely obscure visual impedance to the garden area. Whilst advice was given prior to planting of the detracting to light

ingress to the garden as these trees increased in size, the desire to create dense screening within a relatively short timeframe was paramount and completed as instructed.

3.1 Tree Selection.

Tree planting has been somewhat sporadic over the last 20 years or so following a more reactive program of planting during the 1990s and loss of the Elm species. There are some very good quality specimen trees within the grounds that are fundamental in the setting of this property within the landscape. A more realistic approach to introducing new trees would be to encourage trees at a greater distance from the residential areas so as to maintain the privacy aspect of the property without an imposing influence being placed upon living space.

4.1 Tree Management.

As there has been little proactive tree management carried out for 20 years or so, any remedial works has been limited to reactive works on diseased or damaged trees. The lack of selective thinning works to the densely planted stands of trees and naturalised invasive species has resulted in poorer elongated forms developing. The new owners of the property are adopting a robust, pragmatic approach in tree management that will seek to improve the condition of the current tree stock and implement a more sustainable legacy for the area overall.

5.1 Soil Conditions.

The soil was not inspected to ascertain its composition. The area where I inspected the trees is of fertile amenity composition that sustains and promotes plant growth.

6.1 Inspection Criteria.

The 7 trees adjoining the proposed development have been inspected to ascertain their structural condition and to evaluate the continued contribution they will make to the locality given their condition and that of the available substrate they are planted in. This inspection has been made based on sound arboricultural management practices and without bias to proposed development or proposed land use.

The location and numbering of the trees is as the survey plan drawing undertaken by Foresite Surveying Services. The reference plan used for the tree location and numbering is P3/PD/01 as supplied by A7 Design Limited.

6.2 Assessment Guidance.

The pragmatic assessment of these trees given the current land use has been done in accordance with, but not limited by, the criteria as set out within the British Standard 5837 (2012).

7.1 Tree Assessment.

The trees were assessed on Friday 9th October 2020. All stems were clear of vegetation so accurate stem diameters have been measured however, undulating topography and dense understory planting

made taking accurate tree height measurements difficult and therefore some of tree height recordings are estimated.

8.1 Tree Classification.

The trees have been classified in accordance with BS5857 (2012) which uses categories A, B, C or U, which are explained for reference.

Category U

Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

Category A

Trees of high quality with an estimated remaining life expectancy of at least 40 years.

Category B

Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

Category C

Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.

RPA Root protection areas are calculated in accordance with BS 5837 2012. Measurements on trees covered in Ivy are indicated as the estimated diameter prefixed with #.

Sub category classification.

- 1 Mainly arboricultural qualities.
- 2 Mainly landscape qualities.
- 3 Mainly cultural values, including conservation.

Categorisation Colours;

U Dark red
A Light green
B Mid blue
C Grey

Abbreviations;

RPA - Root protection area extending from the edge of the stem as a radius.

DBH -Diameter of the trunk at 1.5 meters above ground height or a calculation of stem diameters as set out in section 4.6 of the BS 5837 (2012).

Cat- Categorisation under BS5837.

or +/-, Estimated dimensions.

Age- Y- Young, SM-Semi mature, M- Mature.

Spread – Crown spread and prominent direction.

M2- Area required sustaining growth in square meters.

9.1 Tree Schedule.

Tree	Specie	Age	Height	Spread	DBH	Condition and form	Cat	Sub Cat	RPA	M2
T1	Sycamore	Y	#16m	Up to 5m West	375 mm	Poor form and condition under the adjoining tree cover, program for removal and replacement with a more suitable specie.	C		4.5m	64m2
T2	Sycamore	M	#21m	Up to 9m	725 mm	Average form and condition for specie, retain and manage.	A	1,2.	8.7m	238m2
T3	Horse Chestnut	Y	#8m	5m South and West	200 mm	Average condition with poor form under adjacent tree cover, retain and manage as a useful screening tree.	C	2.	2.4m	18m2
T4	Horse Chestnut	Y	#8m	4m North	125 mm	Average form and condition for specie, retain and manage.	B	2.	1.5m	7m2
T5	Sycamore	SM	#18m	&m North and West	450 mm	Average form and condition for specie, retain and manage.	B	2.	5.4m	92m2
T6	Sycamore	SM	12.2m	Up to 9m S & W	550 mm	Extensive wound with cavity at 0.4mt to South, cavity appears sound, retain and monitor decline.	C	2.	6.6m	137m2
T7	Horse Chestnut	Y	#7mm	Up to 2.5m	150 mm	Average form and condition for specie, retain and manage.	B	2.	1.8m	10m2

10.1 Root Morphology and Disposition.

Due to the predicted lack of pre disposing factors that could possibly affect the distribution of the root projection, no offset of root protection areas have been compensated for.

11.1 Mitigation of tree loss.

Provisions that seek to protect either individual trees or stands of trees normally require mitigation as a condition for approving destruction of, or damage to, tree or woodland resources.

The loss of any tree within a localised area can have an adverse effect to the amenity value and should, as soon as is practically possible be mitigated through proactive, sustainable tree planting that will contribute to the development and to the area overall.

Where there are no options other than to cause damage to either trees worthy of retention, or to lower the value of habitat through the implementation of development, compensation planting can replace lost tree cover within a realistic timescale.

Whilst proposals for general planting within garden situations always has some merit, the implementation for permanent, unmanaged tree and understory areas should be given more consideration. Of all factors when choosing trees to be integrated within a development the biggest is the effect the trees will have on domestic property through shading.

11.2 New Tree Planting.

As part of the design concept, additional tree and under story planting is proposed to screen the development from the main road.

Considerations given when identifying areas suitable to create tree planting buffers are;

- Use of native tree species known to thrive in wet field situation.
- Use of species that will contribute to the net biodiversity of the area.
- Defined planting areas to respect and maintain the nature of agricultural field shape.
- Minimise impact of the net worth of productive agricultural land.

Planting area 1.

Introduction of under story screening within existing tree line adjoining Les Beaucamps Road.

Specie	Common name	Size 1	Size 2 H x S	Quantity	Requirements
Viburnum opulus	Guelder rose	700mm 3lt pot.	2mt high, 3mt spread.	5	Plant at 5mt spacing as specie and at 3mt centres as mixed species.
Rosa canina	Dog Rose	700mm 3lt pot.	4mt high x 4mt spread.	5	Plant at 5mt spacing as specie and at 3mt centres as mixed species.
Hippophae rhamnoides	Sea Buckthorn	1mt bare root.	5mt High x 5mt spread.	5	Plant at 5mt spacing as specie and at 3mt centres as mixed species.
Corylus avellana	Hazel	1mt bare root.	5mt High x 5mt spread.	5	Plant at 5mt spacing as specie and at 3mt centres as mixed species.
Cornus sanguine	Dogwood	1mt bare root.	3mt High x 3mt spread.	5	Plant at 5mt spacing as specie and at 3mt centres as mixed species.
Ilex aquifolium	Holly	1mt 5lt pot.	5mt High x 5mt spread.	5	Plant at 5mt spacing as specie and at 3mt centres as mixed species.

Planting area 2.

Introduction of under story screening within existing tree line adjoining Les Beaucamps Road.

Specie	Common name	Size 1	Size 2 H x S	Quantity	Requirements
Viburnum opulus	Guelder rose	700mm 3lt pot.	2mt high, 3mt spread.	2	Plant at 5mt spacing as specie and at 3mt centres as mixed species.
Rosa canina	Dog Rose	700mm 3lt pot.	4mt high x 4mt spread.	3	Plant at 5mt spacing as specie and at 3mt centres as mixed species.
Hippophae rhamnoides	Sea Buckthorn	1mt bare root.	5mt High x 5mt spread.	2	Plant at 5mt spacing as specie and at 3mt centres as mixed species.
Corylus avellana	Hazel	1mt bare root.	5mt High x 5mt spread.	5	Plant at 5mt spacing as specie and at 3mt centres as mixed species.
Specie	Common	Size 1	Size 2	Quantity	Requirements

	name		H x S		
Cornus sanguine	Dogwood	1mt bare root.	3mt High x 3mt spread.	5	Plant at 5mt spacing as specie and at 3mt centres as mixed species.
Ilex aquifolium	Holly	1mt 5lt pot.	5mt High x 5mt spread.	3	Plant at 5mt spacing as specie and at 3mt centres as mixed species.

Planting area 3.

Introduction of a screening, shelter belt of trees and under story planting.

Proposed new trees.

Specie	Common name	Size 1	Size 2 H x S	Quantity	Requirements
Alnus glutinose	Alder	1.8mt bare root tree.	20mt high x 10mt spread.	10	Plant at 10 metre spacing throughout the area.
Betula pendula	Birch	1.8mt bare root tree.	20mt high x 4mt spread.	10	Plant at 10 metre spacing throughout the area.
Populus nigra	Black Poplar	1.8mt bare root tree.	20mt high x 8mt spread.	3	Plant at 10 metre spacing throughout the area.
Tilia cordata	Lime	1.8mt bare root tree.	20mt high x 8mt spread.	10	Plant at 10 metre spacing throughout the area.

Proposed under story planting.

Specie	Common name	Size 1	Size 2 H x S	Quantity	Requirements
Viburnum opulus	Guelder rose	700mm 3lt pot.	2mt high, 3mt spread.	5	Plant at 5mt spacing as specie and at 3mt centres as mixed species.
Rosa canina	Dog Rose	700mm 3lt pot.	4mt high x 4mt spread.	5	Plant at 5mt spacing as specie and at 3mt centres as mixed species.
Ilex aquifolium	Holly	1mt 5lt pot.	5mt High x 5mt spread.	5	Plant at 5mt spacing as specie and at 3mt centres as mixed species.
Corylus avellana	Hazel	1mt bare root.	5mt High x 5mt spread.	5	Plant at 5mt spacing as specie and at 3mt centres as mixed species.
Cornus sanguine	Dogwood	1mt bare root.	3mt High x 3mt spread.	5	Plant at 5mt spacing as specie and at 3mt centres as mixed species.

12.1 Tree Protection.

During their lifetime, trees will be vulnerable to disturbance, injury, environmental changes, pests and diseases. Construction work often exerts pressures on existing trees, as do changes in their immediate environment following the construction. A tree that has taken many decades to reach maturity can be damaged irreparably in a few minutes by actions that might be unwitting, negligent or wilful. The early provision of physical protection from damage is therefore critical.

13.1 Avoiding damage to trees (Impact assessment).

The part of a tree most susceptible to damage is the root system, which, because it is not immediately visible, is frequently ignored. Damage to, or death of, the root system affects the health, growth, life expectancy and safety of the entire tree. The effects of such damage might only become evident several years later.

Damage can be the result of a number of minor but compounding factors that accumulate over time. Materials such as uncured concrete, diesel oil and vehicle washings can all damage roots and lead to adverse impacts on the tree.

Damage to the stem and branches of a tree is not usually sufficient to kill the tree directly, but can make it unsafe by affecting the dynamics and growth of the tree, or by initiating long-term decay. Such damage can also be disfiguring. The attachment of notice boards, cables and other utility apparatus can all damage trees.

The protection of trees and roots should be in accordance with BS 5837 (2012) section 7 and the following points must be taken into consideration.

Considerations should be made for the care and protection of trees and roots as calculated when allowing for the following possible constraints;

- Site construction access.
- Contractors' car parking.
- The space needed for foundation excavations and construction works.
- The location and space needed for all temporary and permanent apparatus and service runs, including foul and surface water drains, land drains, soakaways, gas, oil, water, electricity, telephone, television or other communication cables.
- Working space for cranes, plant, scaffolding and access during works.
- Space for site huts, temporary toilet facilities (including their drainage) and other temporary structures.
- Space for storing (whether temporary or long-term) materials, spoil and fuel and the mixing of cement and concrete.
- The effects of slope on the movement of potentially harmful liquid spillages towards or into protected areas.

14.1 General tree protection fencing (method statement).

Where tree protection measures have been defined as part of the tree protection plan, suitable barriers must be employed to prohibit access over these areas. Scaffold type poles, driven 0.6 meters into the ground and suitably braced, should be faced with steel weld mesh and panelling in accordance with recommendations set out in section 6 in the British Standard 5837. Where it becomes necessary to cross root protection areas the surface must be protected with suitable boarding to minimize anaerobic respiration to the root area as detailed. Where applicable, the installation of construction exclusion fencing to omit pedestrian or vehicular traffic from general areas should be considered rather than individual tree protection fencing.

The implementation of a secure physical tree protection fence should be accompanied with hazard signage clearly indicating the importance of tree protection. Any personnel working on the construction site must be made aware of the importance the fencing has on protecting the trees during a site introduction briefing.

14.2 Construction Exclusion Zones.

Where appropriate, and to simplify tree protection, the installation of general construction exclusion fencing should be implemented to totally exclude personnel, vehicles or any materials. The exclusion zone can encompass any number of trees rather than individual fencing around the periphery of the calculated protection areas.

15.1 Construction Management Plan.

The CMP Construction management plan should be created by the main contractor appointed to undertake the works and will need to demonstrate the commitment for tree and landscape protection. The adherence of tree protection as detailed within this report fulfils criteria for adequate tree protection prior to and during the construction process.

16.1 Access within root protection areas (method statement).

Where construction working space or temporary construction access is justified within the RPA, this should be facilitated by a set-back in the alignment of the tree protection barrier. In such areas, suitable existing hard surfacing that is not proposed for re-use as part of the finished design should be retained to act as temporary ground protection during construction, rather than being removed during demolition. The suitability of such surfacing for this purpose should be evaluated by the project arboriculturist and an engineer as appropriate.

Where the set-back of the tree protection barrier would expose unmade ground to construction damage, new temporary ground protection should be installed as part of the implementation of physical tree protection measures prior to work starting on site.

New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

NOTE the ground protection might comprise one of the following:

- a) For pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane;
- b) For pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane;
- c) For wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

17.1 Excavations (method statement).

Where an existing hard surface is scheduled for removal, care should be taken not to disturb tree roots that might be present beneath it. Hand-held tools or appropriate machinery should be used (under arboricultural supervision) to remove the existing surface, working backwards over the area, so that the machine is not moving over the exposed ground. If a new hard surface is to be laid, it would be preferable to leave any existing sub-base in situ, augmenting it where required. Roots, whilst exposed, should immediately be wrapped or covered to prevent desiccation and to protect them from rapid temperature changes.

Any wrapping should be removed prior to backfilling, which should take place as soon as possible. Roots smaller than 25 mm diameter may be pruned back, making a clean cut with a suitable sharp tool (e.g. bypass secateurs or handsaw), except where they occur in clumps. Roots occurring in clumps or of 25 mm diameter and over should be severed only following consultation with an arboriculturist, as such roots might be essential to the tree's health and stability.

Prior to backfilling, retained roots should be surrounded with topsoil or un-compacted sharp sand (builders' sand should not be used because of its high salt content, which is toxic to tree roots), or other loose inert granular fill, before soil or other suitable material is replaced. This material should be free of contaminants and other foreign objects potentially injurious to tree roots.

In the event of using pile foundations, and to minimize the impact to the trees, the top 800mm of soil should be manually excavated to determine the extent of roots within the vital A plane. Individual roots less than 25mm in diameter may be cleanly cut and treated as normal excavation recommendations above, otherwise arboricultural advice should be sought.

18.1 Irrigation deficit.

Where root protection areas are proposed to be covered, the loss of irrigation may become an aggravating factor to the future development of the trees. In cases where more than 10% of the water absorption area is disrupted, an irrigation derivation system may need to be employed and can be calculated if required.

19.1 Arboricultural supervision.

A retained arboriculturist should be available to give advice for the duration of works and should be consulted prior to the following actions are undertaken:

- Installation or subsequent relocation of tree protection fencing.
- Installation of root protection measures.
- Supervision during the removal of surfaces.
- Inspection of substrate so suitable mulch can be recommended.
- Root severing for roots greater than 25mm in diameter.
- Installation of suitable irrigation and irrigation rates.

20.1 Limitations.

This report is undertaken without bias and looks purely at the current condition and health of the trees. No responsibility can be accepted for damage to persons or property in the event of a part or whole failure of a tree surveyed. Trees are living structures that are susceptible to damage from pathogens, weather and other factors. The advice given is in accordance with the latest research in tree assessments.

Richard Loyd

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