

FAO: Mr. M Sugars
Blenheim Realty (Home Counties) Ltd
& Blenheim assets and investments (Herts) Ltd.

24 November 2020

Dear Mr. Sugars,

**Tree Survey & Report 03
Survey, Impact Assessment & Method Statement
Residential Development. Land off Wayside Avenue, Bushey, Herts**

We are pleased to submit a tree survey and comments with respect to the plans to obtain planning permission for a residential development as described on layout plan BLE 170 PA 041 by MSquare Architects Ltd.

1. Background & Brief

It is proposed to obtain planning permission to build four houses at the site. The purpose of this report is, therefore:

- *To provide an objective assessment of the trees inside and in direct proximity to the development to the BS5837 (2012) 'Trees in Relation to Design, Demolition and Construction-Recommendations' as a guide to the site layout.*
- *To provide enough data to calculate tree Root Protection Areas.*
- *To Produce an Arboricultural Survey and Constraints Plan.*
- *To Produce an Arboricultural Impact Assessment.*

Richard Jones carried out a tree survey on the 15 April 2020 in accordance with the guidelines in the BS5837 (2012) Trees in Relation to Design, Demolition and Construction-Recommendations. The trees are described on the Tree Survey and Constraints Plan 03 as T1 and so on. The survey is based on a topographical survey plan provided by you.

The survey was carried out from ground level and no digging or drilling were carried out. The weather conditions were clear with sufficient visibility for appraising trees for planning purposes. This survey is for planning purposes only and is not a detailed tree risk assessment.

2. Conditions & Limitations

Trees are dynamic living organisms whose health and condition can be subject to changes, depending upon several internal and external factors. Thus, it is recommended that they should be assessed by a competent and qualified person on a regular basis. It is proposed that the trees discussed in this survey be assessed every 2 years and/or immediately following stormy/extreme weather conditions.

While every effort has been made to identify defects within the trees inspected, no absolute guarantee can be given or is intended to the safety or otherwise of any tree or trees discussed in this survey or report. Extreme climatic conditions can on occasions cause damage to what appear to be healthy trees.

The period of validity of this survey may be reduced if work is undertaken upon or if the conditions directly adjacent or in proximity to the trees are changed without prior consultation.

It will be necessary to clear plant growth and/or debris and/or gain access and carry out a further assessment as directed in the survey schedule in situations where an assessment has been restricted by a lack of access, a build-up of debris, plant growth or other materials. The requirement for supplementary assessments is highlighted clearly in the survey schedule. These assessments should be carried out immediately following the removal of the plant growth and/or debris and the availability of access.

3. Legal Considerations

Tree Preservation Orders (TPO): The Hertsmere Council interactive TPO online check plan confirmed on the 23 April 2020 that no trees at the site are subject to a Tree Preservation Order.

Trees and Wildlife: Trees are hosts to nesting birds, many of which are protected by law. Investigations should be carried out by properly trained operatives for signs of bats (all of which are protected by law) and nesting birds and advice sought from appropriate agencies such as Natural England, the Bat Conservation Trust (BCT) or the Royal Society for the Protection of Birds (RSPB) following any positive sightings. Tree works should be planned carefully to avoid disturbing nesting birds and roosting bats. The disturbance of protected species is an offence and could result in prosecution, a criminal record and a substantial fine.

Impact Assessment

4. The Trees & the Development

The Proposed Houses & the Trees: The plots 1 to 4 are to be sited outside the Root Protection Areas (RPA) of the retained trees T2, T3, T14 and T15. In this respect, the layout meets with the guidelines for best practice. The hedgerows G13 and G16 will also be retained.

The dwellings will be well beyond the retained trees canopy radii. They are sited to the south of the trees and thus are not impacted by shade.

Hard Surfaces: A new hard surface accessway is proposed inside the RPA of the retained cherry tree T1. As recommended in BS5837 (2012) and the Arboricultural Practice Note 12, the new surface should be built by way of the no-dig method inside the RPA of the retained tree T1. The no-dig method utilises a cellular confinement system (photograph 1) that disperses downward forces in a horizontal manner thereby reducing the risk of compaction on the roots of the nearby retained trees. The no-dig surface methodology involves building up rather than digging down using permeable materials to allow the transfer of water, oxygen, and nutrients. The site lends itself to this method of surface construction as it is generally flat.



Photograph 1

Alternatively, T1 may be removed and replaced with another better quality longer lived cherry or similar.

Tree Removal: The Low C Grade groups of small trees and shrubs G5, G6, T7, G8, G9, T10 and the Moderate B Category maple T12 are to be removed to facilitate the proposed layout. They are small trees and shrubs that are set back from the road frontage. Their loss is unlikely to detract from the appearance of the landscape or its enjoyment by members of the public.

The remaining trees T4 and T11 are designated as Unsuitable for Retention in respect of their poor condition and/or low vigour, and limited longevity. They are recommended to be removed irrespective of the proposed development.

Definition of a Root Protection Area (RPA): An RPA is an area described on the Tree Survey and Constraints Plan as a yellow circle and on the layout plan as broken red line circles. It is calculated according to the guidelines in the BS5837 (2012) as 12 x the stem diameter for single stemmed trees. Works carried out inside the RPA's of retained trees should be undertaken by special measures.

Utilities: The utilities may be installed from the existing road frontage outside the RPA's of the retained trees.

Tree Pruning: No pruning is required to facilitate the proposed development.

Tree Protection during Development & Storage: The retained trees should be protected by temporary barriers as described in the following generic methodology. There is room for storage of materials away from the retained trees.

Access: Access to the rear gardens for maintenance will be available from existing roads and hard surfaces and the proposed parking area/s.

Conclusion: It is apparent that there is little risk from the proposed development to the retained trees T1, T2, T3, T14 and T15 because of the mitigating measures described in the preceding paragraphs. Thus, there does not appear to us to be any reasonable cause in arboricultural terms why this proposal should not to go ahead.

Method Statement

5. Tree Protection during Development-Method Statement

Barriers should be placed around the retained tree's RPA's and hedgerows for the duration of the site clearance and building works in line with the following figure 1. The RPA's are described on the layout plan by a broken red line. The barriers should be placed at 0.5m beyond the canopy edge of the retained hawthorn hedges.

The area inside the protective barriers must remain undisturbed during the development process; it is a "construction exclusion zone". No change in levels, fires, storage of materials, and use of fuels, chemicals, equipment, or vehicles are permitted in the construction exclusion zone. Adequate provision for storage, office accommodation, access for construction traffic and parking is available outside the construction exclusion zone.

The barriers must be in place before building work commences and must always be fit for purpose. It is recommended that an appropriately qualified arboriculturist in conjunction with the LA tree/arboricultural officer approve the fencing and supervise any amendments. The barriers should not be removed until work is completed on site.

Contaminating materials such as concrete washings should be disposed of at a minimum of 10m from the retained trees in a position where, if spilt, could not run towards the trees. Notice boards, service/utility cables etc. must not be attached to any part of the protected tree.

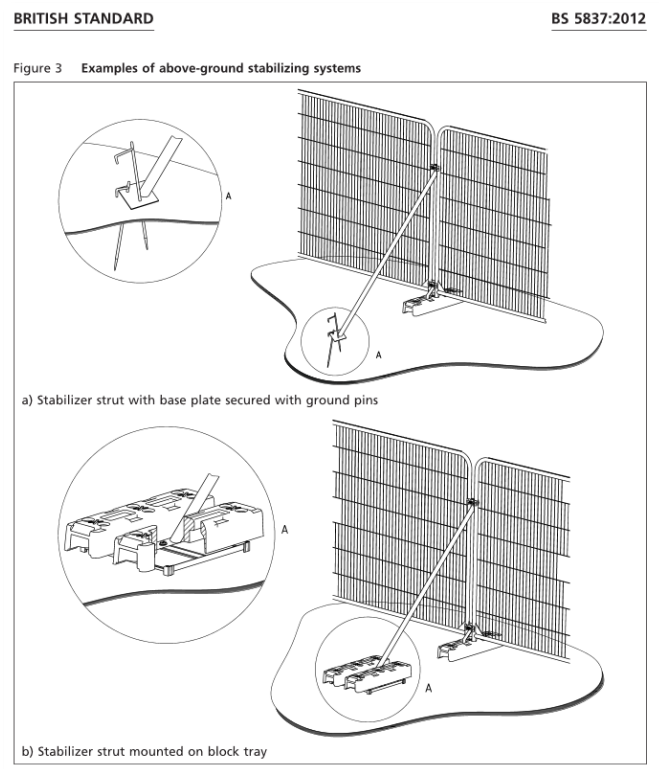


Figure 1 BS5837 (2012)

6. Site Supervision & Timing of Arboricultural & Building Works

The services of an arboriculturist should be retained during the construction process to address any issues that might arise regarding tree retention, protection, and management. It is the responsibility of the site owner, manager and main contractor to ensure that any tree protection or other relevant planning conditions are adhered to. A breach of a planning condition may result in enforcement action by the LA.

It will be necessary to supervise the operation of tall or wide machinery such as booms or jibs during the construction work in proximity to the canopies of retained trees.

It is recommended that a pre-commencement meeting be arranged with the contractors who may be operating the machinery to address/overcome any concerns about close by branches and to organize any mitigating pruning.

Phasing of Works

1. Carry out tree pruning works
2. Install the temporary tree protection barriers prior to site clearance works being carried out, which must not be removed until works are entirely complete
3. Start construction works

we trust that you find this report helpful. Please contact me if you have any questions.

Yours sincerely

RA Jones

Richard Jones MICFor, F Arbor A, CEnv
Director

References:

BS5837 (2012) Trees in Relation to Design, Demolition & Construction-Recommendations

Plans:

Tree Survey and Constraints Plan 03

Tree Survey Schedule

Ref	Species	Full Structure	Measurements	Spread	Observations	Retention Category	RPA	Measurements2	Recommendations
T1	Japanese Cherry (Prunus sargentii)	Tree	Height (m): 8 Stem Diam (mm): 500 Spread (m): 3N, 3E, 3S, 3W Crown Clearance (m): 1 Life Stage: Mature Rem. Contrib.: 10+ Years	N:3 E:3 S:3 W:3	Dense ivy restricted assessment Low vigour Small tree with little merit in the landscape	C1	Radius: 6.0m. Area: 113 sq m.	Other Reference: Physiological Cond: Fair-poor Structural Cond: Fair Amenity value: Low	If retained - clear ivy & re-assess
T2	Maple (Acer sp.)	Tree	Height (m): 14 Stem Diam (mm): 350 Spread (m): 1N, 4E, 4S, 4W Crown Clearance (m): 2 Life Stage: Semi Mature Rem. Contrib.: 20+ Years	N:1 E:4 S:4 W:4	Very dense undergrowth restricted assessment Collective value in landscape with neighbouring trees No assessment of structure carried out Stem diameter estimated Located away from site frontage	B2	Radius: 4.2m. Area: 55 sq m.	Other Reference: Physiological Cond: Fair Structural Cond: No assessment carried out Amenity value: Moderate	If retained - clear undergrowth & re-assess
T3	Maple (Acer sp.)	Tree	Height (m): 14 Stem Diam (mm): 350 Spread (m): 4N, 4E, 1S, 4W Crown Clearance (m): 2 Life Stage: Semi Mature Rem. Contrib.: 20+ Years	N:4 E:4 S:1 W:4	Very dense undergrowth restricted assessment Collective value in landscape with neighbouring trees No assessment of structure carried out Stem diameter estimated Located away from site frontage	B2	Radius: 4.2m. Area: 55 sq m.	Other Reference: Physiological Cond: Fair Structural Cond: No assessment carried out Amenity value: Moderate	If retained - clear undergrowth & re-assess

Tree Survey Schedule

Ref	Species	Full Structure	Measurements	Spread	Observations	Retention Category	RPA	Measurements2	Recommendations
T4	Apple (Malus sp.)	Tree	Height (m): 6 Stem Diam (mm): 200 Spread (m): 2N, 2E, 2S, 1W Crown Clearance (m): 0 Life Stage: Semi Mature Rem. Contrib.: <10 years	N:2 E:2 S:2 W:1	Suppressed by very dense undergrowth Located away from site frontage	U	None - due to Retention Category of U.	Other Reference: Physiological Cond: Poor Structural Cond: No assessment carried out Amenity value: Low	Remove tree
G5	Buddleia (Buddleia sp.) Ash (Fraxinus sp.) Cypress (Chamaecyparis sp.) Plum (Prunus domestica) Maple (Acer sp.)	Group	Height (m): 6 Stem Diam (mm): 200 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 0 Life Stage: Semi Mature Rem. Contrib.: 10+ Years	N:2 E:2 S:2 W:2	Very dense unmanaged area of small trees & overgrown shrubs Located away from site frontage Small trees with little merit in the landscape	C	Area: 306.6 sq m.	Other Reference: Physiological Cond: Fair Structural Cond: Poor Amenity value: Low	None
G6	Ash (Fraxinus sp.)	Group	Height (m): 5 Stem Diam (mm): 100 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 1 Life Stage: Young Rem. Contrib.: 10+ Years	N:2 E:2 S:2 W:2	Group of self seeded trees Located away from site frontage Small trees with little merit in the landscape	C2	Area: 20.48 sq m.	Other Reference: Physiological Cond: Poor Structural Cond: Poor Amenity value: Very low/none	None

Tree Survey Schedule

Ref	Species	Full Structure	Measurements	Spread	Observations	Retention Category	RPA	Measurements2	Recommendations
T7	Leyland Cypress (<i>Cupressocyparis leylandii</i>)	Tree	Height (m): 6 Stem Diam (mm): 200 Spread (m): 3N, 3E, 3S, 3W Crown Clearance (m): 0 Life Stage: Semi Mature Rem. Contrib.: 10+ Years	N:3 E:3 S:3 W:3	Recently topped Small tree with little merit in the landscape Located away from site frontage	C1	Radius: 2.4m. Area: 18 sq m.	Other Reference: Physiological Cond: Good Structural Cond: Fair Amenity value: Very low/none	None
G8	Bay Tree (<i>Laurus nobilis</i>) Bramble (<i>Rubus</i> sp.) Ash (<i>Fraxinus</i> sp.) Forsythia (<i>Forsythia</i> sp.)	Group	Height (m): 5 Stem Diam (mm): 100 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 0 Life Stage: Semi Mature Rem. Contrib.: 10+ Years	N:2 E:2 S:2 W:2	Dense area of self-seeded small trees & overgrown shrubs Located away from site frontage Small trees with little merit in the landscape	C	Area: 58.68 sq m.	Other Reference: Physiological Cond: Fair Structural Cond: Poor Amenity value: Very low/none	None
G9	Maple (<i>Acer</i> sp.) Horse Chestnut (<i>Aesculus hippocastanum</i>) Buddleia (<i>Buddleia</i> sp.)	Group	Height (m): 6 Stem Diam (mm): 100 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 0 Life Stage: Young Rem. Contrib.: 20+ Years	N:2 E:2 S:2 W:2	Dense group of of predominantly self-seeded small trees Located away from site frontage Small trees with little merit in the landscape	C2	Area: 84.05 sq m.	Other Reference: Physiological Cond: Fair Structural Cond: Fair Amenity value: Low	None

Tree Survey Schedule

Ref	Species	Full Structure	Measurements	Spread	Observations	Retention Category	RPA	Measurements2	Recommendations
T10	Maple (Acer sp.)	Tree	Stem Diam (mm): 140 Spread (m): 3N, 3E, 3S, 3W Crown Clearance (m): 1.5 Life Stage: Young Rem. Contrib.: 40+ Years	N:3 E:3 S:3 W:3	Self-seeded specimen Stem damage Located away from site frontage	C1	Radius: 1.7m. Area: 9 sq m.	Other Reference: Physiological Cond: Fair Structural Cond: Fair-poor Amenity value: Very low/none	None
T11	Apple (Malus sp.)	Tree	Height (m): 10 Stem Diam (mm): 310 Spread (m): 3N, 3E, 3S, 3W Crown Clearance (m): 3 Life Stage: Early Mature Rem. Contrib.: <10 years	N:3 E:3 S:3 W:3	Low vigour Sparse crown Located away from site frontage	U	None - due to Retention Category of U.	Other Reference: Physiological Cond: Poor Structural Cond: Poor Amenity value: Very low/none	Remove tree
T12	Maple (Acer sp.)	Tree	Height (m): 12 Stem Diam (mm): 300 Spread (m): 4N, 4E, 4S, 4W Crown Clearance (m): 4 Life Stage: Semi Mature Rem. Contrib.: 20+ Years	N:4 E:4 S:4 W:4	Asymmetric form as a result of proximity to adjacent trees Located away from site frontage	B1	Radius: 3.6m. Area: 41 sq m.	Other Reference: Physiological Cond: Fair Structural Cond: Fair Amenity value: Moderate	None
G13	Maple (Acer sp.) Hawthorn (Crataegus sp.) Ash (Fraxinus sp.) Bramble (Rubus sp)	Group	Height (m): 10 Stem Diam (mm): 200 Spread (m): 3N, 3E, 3S, 3W Crown Clearance (m): 0 Life Stage: Semi Mature Rem. Contrib.: 10+ Years	N:3 E:3 S:3 W:3	Very overgrown area of self- seeded trees & woody shrubs Located away from site frontage Small trees with little merit in the landscape	C2	Area: 289.97 sq m.	Other Reference: Physiological Cond: Fair Structural Cond: Poor Amenity value: Low	None

Tree Survey Schedule

Ref	Species	Full Structure	Measurements	Spread	Observations	Retention Category	RPA	Measurements2	Recommendations
T14	Ash (Fraxinus sp.)	Multi-Stemmed 2 stems	Height (m): 12 2 stems, avg. (mm): 200 Spread (m): 3N, 3E, 3S, 3W Crown Clearance (m): 3 Life Stage: Semi Mature Rem. Contrib.: 10+ Years	N:3 E:3 S:3 W:3	Located on site boundary No assessment of structure carried out Stem diameter estimated Dense undergrowth restricted assessment Located away from site frontage	C1	Radius: 3.4m. Area: 36 sq m.	Other Reference: Physiological Cond: Fair Structural Cond: no assessment carried out Amenity value: Low	Clear undergrowth & re-assess
T15	Lawson Cypress (Chamaecyparis lawsoniana)	Tree	Height (m): 8 Stem Diam (mm): 200 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 0 Life Stage: Semi Mature Rem. Contrib.: 20+ Years	N:2 E:2 S:2 W:2	Located on site boundary No assessment of structure carried out Stem diameter estimated Dense undergrowth restricted assessment Located away from site frontage	C1	Radius: 2.4m. Area: 18 sq m.	Other Reference: Physiological Cond: Good Structural Cond: no assessment carried out Amenity value: Low	Clear undergrowth & re-assess
G16	Hawthorn (Crataegus sp.)	Group	Height (m): 3 Stem Diam (mm): 100 Spread (m): 1N, 1E, 1S, 1W Crown Clearance (m): 0 Life Stage: Early Mature Rem. Contrib.: 10+ Years	N:1 E:1 S:1 W:1	Overgrown hedgerow	NotRecorded	None - no Retention Category specified.	Other Reference: Physiological Cond: Fair Structural Cond: Fair Amenity value: Low	None
T17	Elm (Ulmus sp.)	Tree	Height (m): 2 Stem Diam (mm): 200 Spread (m): 1N, 1E, 1S, 1W Crown Clearance (m): 0 Life Stage: Semi Mature Rem. Contrib.: 10+ Years	N:1 E:1 S:1 W:1	Small Elm shrub Small tree with little merit in the landscape	C	Radius: 2.4m. Area: 18 sq m.	Other Reference: Physiological Cond: Fair Structural Cond: Poor Amenity value: Very low/none	None

Tree Survey Schedule

Ref	Species	Full Structure	Measurements	Spread	Observations	Retention Category	RPA	Measurements2	Recommendations
T18	Cherry (Prunus sp. (Cherries))	Tree	Height (m): 2 Stem Diam (mm): 200 Spread (m): 1N, 1E, 1S, 1W Crown Clearance (m): 0 Life Stage: Semi Mature Rem. Contrib.: <10 years	N:1 E:1 S:1 W:1	Dead Stump	U	None - due to Retention Category of U.	Other Reference: Physiological Cond: Fair Structural Cond: Poor Amenity value: Very low/none	Remove stump

Tree Survey Schedule

Survey Data Collection Methodology & Constraints

This survey is for planning guidance purposes only and is intended as only a preliminary assessment of the trees. It is not a detailed individual tree condition assessment. In the case of groups of trees, only a general assessment has been made and the recorded condition and retention categories awarded are on the basis of what is typical of the group.

The trees are identified by their common and botanical names. The identification is based on visual observations and the common name is listed first, with the botanical name in brackets. In some instances, it may be difficult to identify a particular tree without further detailed investigations. Where there is some doubt of the precise species of tree, a sp is shown after the genus. The species shown for groups represents the main constituent and there may be other minor species not listed. Common names are sometimes regional and may therefore vary in terms of the locality.

BS5837 (2012) suggests the following **age classifications** which have been supplemented to assist the reader:

Yng- *Young tree/s of less than 1/3 life expectancy*

SM- *Semi-mature tree/s between young & middle aged*

EM- *Early-mature tree/s of 1/3-2/3 life expectancy*

Mat- *Mature tree/s of more or less full height, but with potential to increase in girth*

O/M- *Over Mature tree/s declining in health & stature*

Vet- *Veteran tree/s of significant & identifiable historical, ecological & conservation value*

Tree Survey Schedule

A **retention category** (Ret Cat) is given as follows to correspond with table 1 of BS5837 (2012)-See appendix 4:

Ret Cat

- A-** *Trees of a high quality and value with greater than 40 years estimated life expectancy-shown as light green on plan
(sub category 1: mainly arboricultural qualities, 2: mainly collective landscape qualities, 3: mainly conservation & or cultural values)*
- B-** *Trees of moderate quality and value with 20 to 40 years estimated life expectancy -shown as mid blue on plan
(sub category 1: mainly arboricultural qualities, 2: mainly collective landscape qualities, 3: mainly conservation & or cultural values)*
- C-** *Trees of low quality and value with 10 to 20 years estimated life expectancy -shown as grey on plan
Trees below 150mm diameter, which may be considered for transplanting
(sub category 1: mainly arboricultural qualities, 2: mainly collective landscape qualities, 3: Mainly conservation & or cultural values)*
- U-** *Trees 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-shown as red on plan*

Tree Survey Schedule

The trees are given a supplementary **structural condition** (Con Cat) and **physiological condition category** (Phys Cat) thus:

Structural Condition Cat

- A Good-** *Trees that appear to be in a good condition without any obvious defects*
- B Fair-** *Trees that appear to be in a moderate to good condition and/or with only minor defects that can be addressed by pruning and/or trees with an unbalanced shape or form*
- C Poor-** *Trees that are of a poor quality that are in decline and or with one or more obvious structural defect that can be addressed by major surgery*
- D Very poor-** *Trees that are of a very poor quality with one or more significant structural defects and or that are in an irreversible state of decline with a very limited safe life expectancy. **Collapsing, decaying** or **dead** trees*

Physiological Cat

- A-** *Trees that appear to be in a good physiological condition*
- B-** *Trees that appear to be in a moderate physiological condition*
- C-** *Trees that are in a poor physiological condition*
- D-** *Trees that are in a very poor physiological condition or dead*

Tree Survey Schedule

Trunk diameters are recorded in millimetres at 1.5m from ground level and at the narrowest point below any out of the ordinary swelling as recommended in BS5837 (2012).

Trunk diameters are measured on the up-slope side of the tree base on sloping-ground as recommended in BS5837 (2012). Trees with irregular bulging stems are measured at the narrowest point below the bulge. Trees with low branching are measured at the narrowest point below the fork. A current maximum stem diameter is given to trees considered as a group. Stem diameters for multi-stemmed trees with up to 5 trunks are taken individually. The stem diameters for trees with more than 5 stems is recorded with a single average measurement.

Tree heights are estimated in metres.

As recommended in BS5837 (2012) **Crown radii** (Spread) are measured at the four cardinal points in meters: *N-North, E-East, S-South, W-West* and a lowest crown clearance from ground level is given at the lowest of the four cardinal points or all four when the crown clearance is roughly level. The crown radius and level measurements are as accurate as possible, but in some instances, are estimated (est) due to difficult ground conditions or restricted access. In the case of tree groups, the maximum peripheral spread is given.

Brief comments are made on the overall health and condition of the trees in question and recommendations are given for any management works considered appropriate on the date of inspection in relation to the current site conditions.

 RJ Tree Services Ltd

Registered Office:

27 Main Street, Foxton, Leicestershire, LE 16 7RB
Mob: 07765 792719 Email: richard@rjtreeservices.co.uk

Director: Richard Jones MICFor, F Arbor A, CEnv
Company Number: 9484682

 Institute of
Chartered Foresters
Registered Consultant

 CEnv
Chartered Environmentalist