From: Joe Robertson
Sent: 11 May 2018 09:35
To: Farzana Tabasum
Subject: FW: Arbtech Arboricultural Report to BS5837 - 34 Daisy Lea Lane
Attachments: BS5837 - 34 Daisy Lea Lane - Arbtech AIA 01 - 09-05-18.pdf; BS5837 - 34 Daisy Lea Lane - Arbtech AMS 01 - 09-05-18.pdf; BS5837 - 34 Daisy Lea Lane - Arbtech TPP 01 - 09-05-18.pdf; Tree Protection Notice (Green).pdf

Hi Farzana

In light of the arboricultural method statement which was recently submitted, as attached, I have no objection providing that we have the following conditions:

The development shall be completed in accordance with the advice and directions (recommendations) contained in the Arboricultural Method Statement, reference (34 Daisy Lea Lane-Arbtech AMS01). These shall be implemented and maintained throughout the construction phase and retained thereafter.
Reason: To protect trees in the interests of visual amenity and to accord with the requirements of Policy NE9 of the Unitary Development Plan.

Before first occupation, the developer shall provide written and/or photographic evidence to the Local Planning Authority to demonstrate that the arboricultural supervision specified in the Arboricultural Method Statement, reference (34 Daisy Lea Lane-Arbtech AMS01), was undertaken. The development shall not be brought into use until this evidence has been approved in writing by the Local Planning Authority.
Reason: To protect trees in the interests of visual amenity and to accord with the requirements of Policy NE9 of the Unitary Development Plan.

Thanks

Joe

Joe Robertson
(Tree Officer)

Planning Services (Tree Section)
Kirklees Council
Investment and Regeneration
PO BoxB93, Civic 3
Huddersfield
HD1 2JR

T: 01484 414909

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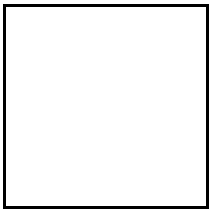
From: Matthew Norris [mailto:matthewnorris@one17design.com]
Sent: 09 May 2018 15:29
To: Farzana Tabasum <Farzana.Tabasum@kirklees.gov.uk>
Cc: Joe Robertson <Joe.Robertson@kirklees.gov.uk>
Subject: FW: Arbtech Arboricultural Report to BS5837 - 34 Daisy Lea Lane

Farzana

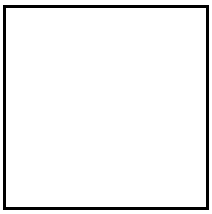
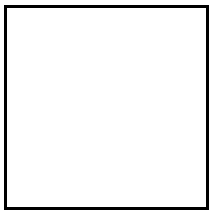
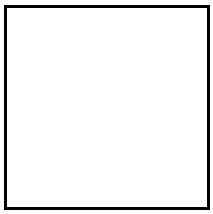
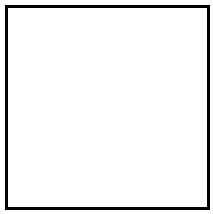
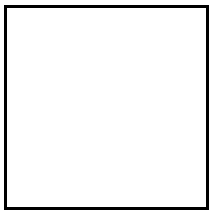
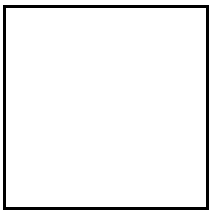
Please find attached the updated Arboricultural Report and drawings as discussed.

Regards

Matthew Norris
Associate



ARCHITECTS & INTERIOR DESIGNERS

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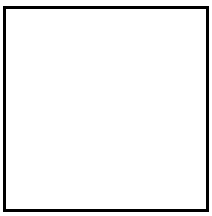
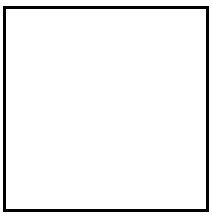
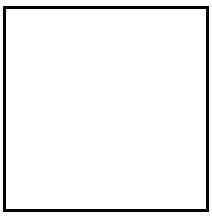
RIBA

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One17 SD (Structural Design) Ltd – Registration No. 4135183 One17 ED (Education) Ltd – Registration No. 3958596 One17 PM (Project Management) Ltd – Registration No. 2241388

From: "At@arbtech.co.uk" <At@arbtech.co.uk>
Date: Wednesday, 9 May 2018 14:49

To: Matthew Norris <matthewnorris@one17design.com>
Subject: Arbtech Arboricultural Report to BS5837 - 34 Daisy Lea Lane

Hi Matthew,

Further your instruction, please find attached the arboricultural impact assessment, tree protection plan and arboricultural method statement to BS5837 for the proposal at the land at 34 Daisy Lea Lane, Huddersfield, HD3 3LP.

Also attached is the tree protection notice which should be laminated and attached the protective fencing.

Please contact me should you require any further clarification/information regarding your project

Regards
Alan Thompson FdSc Arb MArborA
Consultant
Arbtech Consulting Ltd

https://arbtech.co.uk
07703 676 216
Head Office: Unit 3 - Well House Barns - Chester – CH4 0DH

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Note: Trees T4 - T7, T11 - T20, T24, T27, T29 - T32, hedgerow H1and groups G1, G2, G3, G4, G5 & G7 have all been removed during January - May of 2018 as per planning permission 2017/62/92536/W.

Note: No unauthorised excavations are to be carried out within the RPAs of any retained trees. Any level changes must form part of a construction method statement & must protect the rooting environments of all retained trees.

Issue: Proposed extension is partially located within the RPA of tree T33.
Solution: Excavations for the extension foundations within the RPA of T33 are to be carried out under arboricultural supervision

Issue: Proposed garden wall is partially located within the RPAs of trees T28 & T33.
Solution: Excavation for the wall within the RPA are to be carried out under arboricultural supervision

Issue: Proposed property is partially located within the RPA of tree T22.
Solution: Excavations within the RPA are to be carried out under arboricultural supervision

Issue: Proposed hard surfacing removal and replacement is partially situated within the RPAs of trees: T21, T22, T23, T25, T26 & T28.
Solution: Proposed hard surfacing removal and replacement is to be carried out under the supervision of the project arboriculturalist.

Daisy Lea Lane
The Lodge
34
Daisy L
Daisy House
T33
G9
T32
T31
T30
29
Gate
Gate
Wall
Foul - connect to exg
SOAKAWAY
T28
G7
Driveway
Position of garage as per previous outline approval 2016/60/93702/W
Garage for Daisy Lea Lodge
T1
T2
T3
G1
T27
G6
Garage For New Dwelling
T26
Driveway
G2
T4
T5
T6
T8
A
T7
H1
COURTYARD
Soakaway
G7
T25
G8
T24
B
T23
C
New Detached Dwelling
FFL +186.62
T15
T9
T11
T10
T14
T13
T12
T16
T17
T18
T19
T22
Pergola
T20
Terrace
Foul Soakaway
US Soakaway
T21
G3
Soakaway
Raised Beds
Lawn
Soakaway
G4
Greenhouse
Sycamores
G5
0m 1m 3m 5m 10m 15m 20m

Tree Categories

Trees are categorised in accordance with the cascade chart in Table 1 of the British Standard BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'

Category 'U' - Trees in such condition that they cannot realistically be retained as living trees in 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 150mm.

Root Protection Area

In order to avoid damage to the roots or rooting environment of retained trees, the Root Protection Areas (RPAs) should be plotted around each of the category A, B and C trees. This is a minimum area in m² which should be left undisturbed around each retained tree.

The RPA is calculated using the British Standard BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations.

The calculated RPA is capped to 707m², which is the equivalent to a circle with a radius of 15m. Where there appears to be restrictions to root growth the root protection area is reshaped to more accurately reflect the likely distribution of the roots.

Arboricultural Impacts

Impacts	Nos. of trees
Trees to be removed	0
Groups to be removed	1
Trees with proposed incursions into RPAs	7
Groups with proposed incursions into RPAs	0
Trees that will require pruning	0
Groups that will require pruning	0

Arboricultural Impacts

No.	Species	Proposed structure	Incursion
T21	Sycamore	Driveway	RPA
T22	Common lime	Driveway & property	RPA
T23	Cherry laurel	Driveway	RPA
T25	Leyland cypress	Driveway	RPA
T26	Leyland cypress	Driveway	RPA
T28	Sycamore	Driveway & garden wall	RPA
T33	Sycamore	Garden wall & extension	RPA

Tree Work Schedule

No.	Species	Works	Category
G9	Various	Fell to ground level; remove stumps	C2

All tree work is to be undertaken in accordance with British Standard BS 3998:2010 Tree work - Recommendations.
All arising's are to be removed and the site is to be left as found.
Care is to be taken of the ground around retained trees to make sure that it does not become compacted as a result of tree surgery operations. No equipment or vehicles such as timber lorries, tractors, excavators or cranes shall be parked or driven beneath the crowns of any retained trees, to prevent subsequent compaction and root death.

No. of individual trees to be removed

U	A	B	C
0	0	0	0

No. of groups to be removed

U	A	B	C
0	0	0	1

Arboricultural Method Statement

All tree work is to be undertaken in accordance with British Standard BS3998. Please refer to Arbtech Consulting Ltd. Tree Schedule, Aboricultural Method Statement and Tree Protection Plan, for full details of all surveyed trees and how all aspects of the development maybe implemented without detriment to retained trees.

ARBTECH
Unit 3, Well House Barns, Chester, CH4 0DH
www.arbtech.co.uk, email@arbtech.co.uk, 01244 661170

Project:
34 Daisy Lea Lane,
Huddersfield,
Yorkshire,
HD3 3LP

Client:
Michael Lee

Drawing:
Arboricultural Impact Assessment

Based on:
Site plan 20180509

Drawing No:	Rev:
Arbtech AIA 01	

Date:	Scale:	Drawn:
May 2018	1:150 @ A1	AST

Key:

Tree Nos.:	T1	Tree Canopies:		Trunks:	
RPAs:		Category 'U' trees:		Category 'A' trees:	
Category 'B' trees:		Category 'C' trees:		Tree previously removed:	T4
Incursion - Hard surfacing:		Incursion - Hard structures:			

All dimensions should be checked on site. No dimensions are to be scaled from this drawing.
Please notify us of any discrepancies found. Arbtech Consulting Ltd. cannot be held responsible for inaccuracies in the base drawing in which this plan is based.
This drawing is designed to reflect the principles of the layout or design only, and relates only to the protection of retained trees.
This drawing is not to be read as a definitive part of the engineering or construction designs or method statement. An architect or structural engineer should be contacted over any matters of construction, detailing or specification and for any standards or regulatory requirements relating to proposed structures, hard surfacing or underground services.
This drawing was produced in colour - a monochrome copy should not be relied upon.

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ARBTECH

BS5837:2012
Trees in relation to design, demolition and construction – Recommendations

Arboricultural Method Statement

34 Daisy Lea Lane,

Huddersfield,

Yorkshire,

HD3 3LP

9 May 2018

Author: Alan Thompson FdSc. (Arb.), M.Arbor.A.

Table of Contents

If this report has been released electronically the appendices referred to herein can be found in the annexed zip folder/s as .pdf files. If this report has been released in hard copy the appendices will be bound into the back of this report. Plans are annexed separately as A0, A1, A2 or A3 as appropriate.

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Introduction

Arbtech Consulting Limited (Arbtech) received written instruction on from Mr Michael Lee in May 2018 to produce a Arboricultural Impact Assessment, Arboricultural Method Statement and Tree Protection Plan.

Executive Summary

This report describes the extent and effect of the proposed development at the site on individual trees and groups of trees within and adjacent to the site.



Trees within the site were surveyed; using a methodology guided by British Standard 5837:2012 ‘Trees in relation to design, demolition and construction – Recommendations’ (“BS5837”).

Subsequently, this report has been produced, balancing the layout of the proposed development against the competing needs of trees. This report comprises all of the requisite elements of an arboricultural implications assessment, method statement and supporting plans.

Checklist for Submission to Local Planning Authority

Tree survey	☒
Tree constraints plan	☒
Arboricultural impact assessment	☒
Arboricultural method statement	☒
Tree protection plan	☒

This report and its appendices follow precisely the strategy for arboricultural appraisal intended to provide local planning authorities with evidence that trees have been properly considered throughout the development process.

It is the conclusion of this report that the overall quality and longevity of the amenity contribution provided for by the trees and groups of trees within and adjacent to the site will not be adversely affected as a result of the local planning authority consenting to the proposed development. It is considered that any issues raised in this report, or beyond the scope of it can be dealt with by planning conditions.

General Information

Client: Mr Michael Lee

Site: 34 Daisy Lea Lane, Huddersfield, Yorkshire, HD3 3LP,

Brief proposal description: Construction of one new build residential property with associated access road and garage. Construction of new build detached garage for existing residential property (no 34 Daisy Lea Lane).

Planning application reference:

Table 1: Documents referred to.

Document	Reference No.
Topographical survey drawing	NDP 317 SP
Proposed layout drawing	Proposed Site Plan – 20180509
Landscape master plan drawing	N/A
LPA pre-app comments	N/A
British Standard 5837:2012	"BS5837"
Arboricultural Impact Assessment	Arbtech AIA 01
Tree Protection Plan	Arbtech TPP 01

Tree Survey

Survey: An arboricultural survey to BS5837 of all trees within impacting distance of the site was undertaken by Alan Thompson of Arbtech Consulting on 11th August 2016.

A total of 33 individual trees, nine groups of trees and one hedge were surveyed. Details for each of the trees surveyed are provided in the Schedule of Trees (see Appended file)

Table 2: Documents upon which this tree survey has been based

Document	Originator	Reference Number	Title
Topographical Survey	HH Surveys	NDP/317/SP	Site Plan

Limitations: The survey was made at ground level using visual observation only. Detailed examinations, such as climbing inspections and decay detection equipment were not employed, though may form part of the survey's management recommendations. Measurements were taken using specialist tapes, laser and GPS devices. Where this was not possible, measurements are estimated.

Scope: Pre-development tree surveys make arboricultural management recommendations based exclusively upon the individual tree or group of trees condition relative to their present context (*i.e. not in relation to the proposed development*).

Legal Status: No statutory protection check has been performed. BS5837 does not draw any distinction between trees subject to statutory protection, such as a Tree Preservation Order ("TPO"), and those trees without. This is principally because a detailed planning consent overrides any TPO protection. Consequently, we do not seek to offer any comparison between or infer any difference in the quality or importance of TPO trees and other trees.

* For more information on the surveyed trees please see Arbtech Consulting Ltd, Tree Survey Schedule (Appendix 1), Tree Survey Report and Tree Constraints Plan.

Arboricultural Impact Assessment

Table 3: Documents upon which this assessment has been based

Document	Originator	Reference Number	Title
Topographical Survey	HH Surveys	NDP/317/SP	Measured Survey
Site Plan	One 17 Architects	20180509	Proposed Plans

There are a number of issues that may need to be addressed in an arboricultural impact assessment between the trees and the proposed development, these are as follows:

- The effect and extent of the proposed development within the root protection areas (RPAs) of retained trees;
- The potential conflicts of the proposed development with canopies of retained trees; and
- The likelihood of any future remedial works to retained trees beyond which would have been scheduled as a part of usual management.

Table 4: Impacts upon the RPAs of retained trees

Tree Number	Species	Structure	Incursion
T21	Sycamore	Driveway	RPA
T22	Common lime	Driveway, services & property	RPA
T23	Cherry laurel	Driveway	RPA
T25	Leyland cypress	Driveway	RPA
T26	Leyland cypress	Driveway	RPA
T28	Sycamore	Driveway & garden wall	RPA
T33	Sycamore	Driveway, extension & garden wall	RPA

These impacts can be seen on the Arboricultural Impact Assessment drawing number Arbtech AIA 01.

Trees to be removed

The proposal requires the removal of one grouped area of trees

A breakdown of all tree removals and pruning works can be seen in Table 8: Summary of Tree Works

Table 5: Number of individual trees to be removed.

U	A	B	C
0	0	0	0

Table 6: Number of groups to be removed.

U	A	B	C
0	0	0	1

Arboricultural Method Statement

The purpose of this method statement is to demonstrate how any aspect of the development that has potential to result in loss or damage to a tree may be implemented and provide an adequate level of protection for those trees that are to be retained during the proposed works.

Details of key site personnel, including site / project manager will be submitted to the Council's Tree Officer prior to the commencement of site works.

This method statement is to be approved and agreed to in writing by all key personnel prior to the commencement of site works.

No site personnel are to be present and no demolition, site clearance, building work or delivery of materials is to occur until the protective measures are in accordance with this method statement and the Tree Protection Plan drawing number Arbtech TPP 01.

Protective measures should be in accordance with this method statement and the Tree Protection Plan; drawing number Arbtech TPP 01 will remain unaltered and in situ, unless otherwise specified, for the entire duration of the construction.

Table 7: Documents upon which this assessment has been based

Document	Originator	Reference Number	Title
Topographical Survey	HH Surveys	NDP/317/SP	Measured Survey
Site Plan	One 17 Architects	20180509	Proposed Plans

Tree Works

For reasons of public safety, all tree works referred to herein must be carried out prior to any site personnel commencing works or any building materials being delivered.

Table 8: Summary of Tree Works

No.	Species	Works	Category
G9	Various	Fell to ground level; remove stumps	C_2

Notes

All tree work is to be undertaken in accordance with British Standard BS 3998:2010, Recommendations for tree work. All arising's are to be removed and the site is to be left as found. Care is to be taken of the ground around retained trees to make sure that it does not become compacted as a result of tree surgery operations. No equipment or vehicles such as timber Lorries, tractors, excavators or cranes shall be parked or driven beneath the crowns of any retained trees, to prevent subsequent compaction and root death.

Tree removal

A tree should be felled in one piece only when there is no significant risk of damage to people, property or protected species (see Annex A).
Where restrictions (e.g. lack of space, buildings, other features, land ownership or use, or other trees which are to be retained) cannot be overcome, trees should be dismantled in sections.
This also applies where a tall stump is being retained but where branches are to be removed/pruned.
Extensively decayed trees can be unpredictable when they are being felled, and special precautions should therefore be taken, such as the use of a winch to guide the direction of fall.

Stump removal – stump grinding

Stump grinding should be to a minimum of 300mm deep or to extend through the base of the stump leaving the major roots disconnected if the intention is to reduce the potential for the spread of Honey fungus.
The grinding residue should be treated as arising's and removed from site.
NOTE Mechanical destruction of a stump by stump grinding is less disruptive to the site than digging out.

The hole left by stump removal, should be filled with soil or other material. The filling should be appropriate for future site usage, and for any surface treatment that is to be installed.
Where future plant growth is desired, the backfill material should be firmed in 150 mm layers by treading, avoiding excessive compaction and destruction of the soil structure.

Stump removal - digging

Stump removal by digging out should include disposal/utilisation of woody material (see Clause **13**).
NOTE Whether done by hand or machine, digging out can cause severe disturbance of the site.
Where possible, when winching out a stump, a ground or other type of anchor should be used rather than a tree to be retained. If there is no alternative to using such a tree as an anchor, appropriate protective measures should be adopted.

After stump removal

The hole left by stump removal, whether by digging out or grinding, should be filled with soil or other material. The filling should be appropriate for future site usage and for any surface treatment that is to be installed.
Where future plant growth is desired, the back fill material should be firmed in 150mm layers by treading, avoiding excessive compaction and destruction of the soil structure.

Protected Species

Conservation Status of British Bats

The general consensus in Britain and Europe is that virtually all bat species are declining and vulnerable. Our understanding of population status is poor as there is very little historical data for most bat species. Certain species, such as the horseshoe bats, are better understood and have well documented contractions in range and population size.

Given this general picture of decline in UK Government within the UK Biodiversity Action Plan has designated five species of bats as priority species (greater and lesser horseshoe bats, barbastelle, Bechstein's and pipistrelle). These plans provide an action pathway whereby the maintenance and restoration of the former populations levels are investigated.

Legal Status of British Bats

Given the above position all British bats as well as their breeding sites and resting places enjoy national and international protection.

All bat species in the UK are fully protected under the Wildlife and Countryside Act 1981 (as amended) through inclusion in Schedule 5. All bats are also listed on Annex IV (and some on Annex II) of the EC Habitats Directive giving further, European protection. Taken together the act and Conservation of Habitats and Species Regulations 2012 (as amended)* make it an offence to; intentionally or deliberately kill, injure or capture (take) bats;

- Deliberately disturb bats (whether in a roost or not);
- Damage, destroy or obstruct access to bat roosts;
- Possess or transport a bat or any part of a bat, unless acquired legally;
- Sell, barter or exchange bats, or parts of bats

The legislation although not strictly affording protection to foraging grounds does protect roost sites. Bat roosts are protected at all times of the year whether or not bats are present. Any disturbance of a roost due to development must be licenced.

**the regulations that delivered by the UK's commitments to the Habitats Directive.*

Breeding birds

All nesting birds are protected under the Wildlife and Countryside Act (as amended) 1981, which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. Furthermore a number of birds enjoy further protection under that Act and are listed on Schedule 1 of the Act. These further protected birds are also protected from disturbance and it may be necessary to operate “no-go” buffer zones around such nests – typically out to 100m.

Planning policy guidance on the treatment of species identified as priorities under the biodiversity action programme suggests that local authorities should take measures to protect the habitats of these species from further decline through policies in local development documents and should ensure that they are protected from the adverse effects of development, where appropriate, by using planning conditions or obligations. The conservation of these species should be promoted through the incorporation of beneficial biodiversity designs within developments.

Site Management

The site manager will be responsible for briefing and inducting all personnel who will be working on any stage of this development and especially those who will be working within or adjacent to the canopies or RPAs of retained trees; and will make them aware of, and provide a copy of this method statement and tree protection plan drawing number Arbtech TPP 01; this is to include but not exclusively of the movement and or operation of plant, excavations, unloading deliveries, mixing and or pouring of cement and concrete.

The site manager will be responsible for the day to day running and protection of all retained trees and for liaising with the project arborist about any tree related matters and prior to any works that may or will affect the RPAs or canopies of retained trees; this is to include but not exclusively the movement and or operation of plant, excavations, unloading deliveries, mixing, pouring and storage of all caustic materials that may cause harm to retained trees.

Any incidents of damage to retained trees or of tree protection measures will be documented by the site manager who will then report these incidents to the project arboriculturist immediately and make sure that works within this area cease until the project arborist has had an opportunity to inspect the damage and where appropriate, agree a mitigation plan with the local planning authority tree officer.

The site manager may designate another person to take charge of briefing and inducting process of new site personnel or visitors in his absence.

If the site manager is replaced or is absent from site for more than three consecutive working days the project arborist will be informed and a pre start meeting will be held with the new or acting site manager.

It is the responsibility of the site manager to ensure that the planning conditions attached to the planning consent are adhered to at all times and that a monitoring regime and supervision of any works within or adjacent to the RPAs are adopted.

If at any time pruning works are required other than those previously approved, permission must be sought from the LPA tree officer and once permission is granted they are to be carried out by a suitably qualified person in accordance with BS3998:2010 Tree work – Recommendations.

Prohibition

- Mechanical digging or scraping is not permitted within a defined root protection area or within areas cordoned off by protective barrier fencing.
- No access will be permitted within the protected areas;
- No materials, equipment or debris will be stored within any of the fenced areas, or against the fencing;
- Fires are not permitted within 10m of any vegetation.
- Leaning objects against or attaching of objects to a tree is not permitted.
- Machinery, plant and vehicles are not permitted to be washed down within 10m of vegetation.
- Chemicals and materials are not to be transported, stored, used or mixed within a root protection area or within areas cordoned off by protective barrier fencing.
- Cement silos, mixing site to be situated within a bunded area to prevent pillage/leaking of chemicals harmful to trees. These areas are to be sited well clear of protected trees.
- Refuelling of plant or machinery is prohibited within 10m of the construction exclusion zones.
- It is essential that allowance should be made for the slope of the ground so that damaging materials such as concrete washings, mortar or diesel oil cannot run towards trees.
- Where machinery is to be used within 5m of retained tree canopies a banks man will be required at all times whilst setting up, moving or operating within this distance of retained trees canopies.
- Storage of all caustic material and chemicals are to be situated well clear of protected areas and preferably on lower ground if slopes are present, or to be situated within a bonded area to prevent any spills or leaks entering the ground.

Sequencing of works

A logical sequence of events is to be observed and shall be phased as follows.

Table 9: Sequence of Events

Stage	Event
Stage 1	Pre-commencement site meeting
Stage 2	Carry out tree works as specified within the summary of tree works
Stage 3	Installation of protective measures in accordance with the approved tree protection plan/s
Stage 4	Undertake and complete construction works
Stage 5	Undertake external landscaping works outside of the construction exclusion zones
Stage 6	Removal of all machinery and materials form site
Stage 7	Dismantle and removal of protective measures
Stage 8	Undertake external landscaping works within the construction exclusion zones
Stage 9	Sign off from project arboriculturist

Protective Measures

Protective measures are to be installed immediately following the completion of the tree works, and are to be sited and aligned in accordance with the tree protection plan (Arbtech TPP 01) prior to the commencement of any works or the introduction of any machinery or material to site.

Upon installation of the protective measures around the retained trees the project arboriculturist will visit the site to inspect and document the position and specifications of the protective measures.

In the event that the protective measures and their positions do not comply with this arboricultural method statement document number Arbtech AMS 01 (03 -11-16) and tree protection plan drawing number Arbtech TPP 01, the project arboriculturist shall inform the client and fencing contractor so adjustments can be made.

When the protective measures comply with document number Arbtech AMS 01 (03 -11-16) and tree protection plan drawing number Arbtech TPP 01, the project arboriculturist will sign off the protective measures in writing to the client and will send a copy to the fencing contractor, site agent and local authority tree officer.

If the protective measures become damaged or there is any accident or emergencies involving trees, these areas are to be cordoned off immediately with high visibility plastic mesh fencing. The site agent is to photograph and document the damage and inform the project arboriculturist immediately after the incident and all work within in this area is to cease until the project arboriculturist has made a visit to the site. Any and all damaged sections of protective measures shall be replaced within 48 hours of the initial incident.

The protected area is sacrosanct and will not be invaded by the storage of materials, mixing of concrete or other products, accessed by machinery, equipment or pedestrians or in any other way disturbed by construction activity.

The protective measures will remain in place until the completion of stage 7 (see Sequencing of Works), thereafter they will be carefully dismantled only with the agreement of the project arboriculturist and or the local authority tree officer.

The existing site boundary measures are to be retained for the duration of the development. If for any reason the existing boundary measures are not to be used protective barrier fencing is to be installed along the line of the boundaries and is only to be removed upon the written permission of the project arboriculturist or LPA tree officer upon the completion of the development or immediately prior to the installation of the permanent boundary measures.

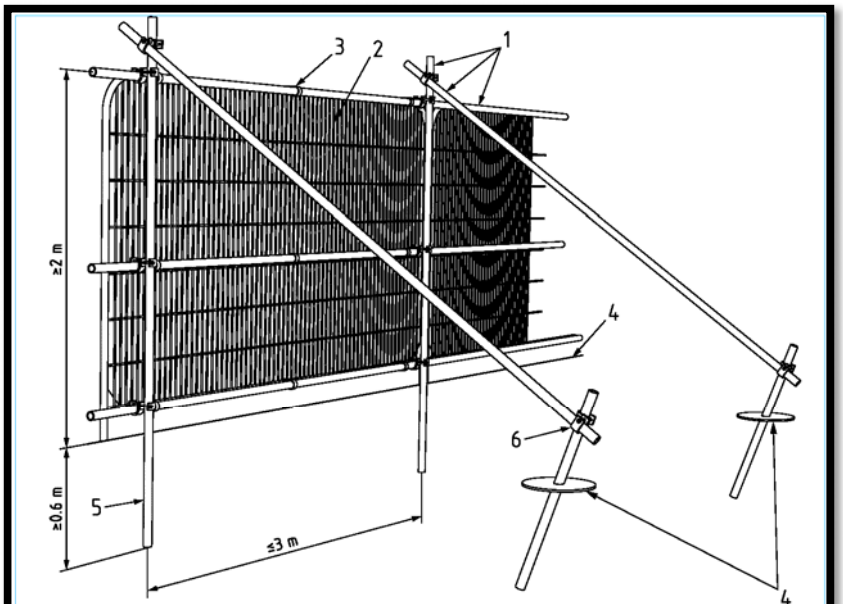
Proposed access road is to be installed immediately to act as ground protection, where it is decided that this is not a viable option these areas are to be covered by ground boarding as designed by the project engineer to cope with any likely loading.

No equipment, vehicles or plant shall operate beyond the tree protection fencing. Booms, hoists and rigs should be kept as far away from the canopies of retained trees at all times. Where it is necessary to operate within 5m of a tree canopy, it will be done with the utmost caution and under the control of a banks man. Damage to trees will be considered a breach of this tree protection plan, which in turn could be a breach of planning permission.

Protective Barrier Fencing

Protective barrier fencing should be appropriate for the intensity and proximity of the development to protect trees where development activity is in close proximity.

Default specification: To comprise either 2.4m wooden site hoarding; or a 2.3m high scaffold framework, well braced to resist impacts, with uprights to be spaced at a maximum of 3.0m intervals and driven into the ground by a minimum of 600mm. On to this, standard anti-climb welded mesh panels are to be securely fixed to each other with at least two scaffold clamps and to the scaffold frame work with wire.



Key

1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

Signage denoting the words "*tree protection area*" at 5.0m intervals should be fixed to the protective barrier fencing (See Appended file).

Protective fencing is to be removed ONLY with the written permission of the arboricultural consultant and approval of the local planning authority (LPA).

Demolition

Prior any demolition of the existing site features, all tree works are to have been completed, tree protection measures are to be in place as per Arbtech Consulting Ltd. tree protection plan document number Arbtech TPP 01 and have been signed off and a copy of the demolition method statement has been submitted and approved by the project arboriculturist and LPA tree officer, to ensure that there is no conflict with this method statement.

All demolition work within or immediately adjacent to RPAs or canopies of retained trees is to be undertaken under the direct on-site supervision of an arboriculturist.

Construction

Prior to construction, a copy of the construction method statement should have been submitted and approved by the project arboriculturist and LPA tree officer, to ensure that there is no conflict with this method statement.

All excavations and construction work within or immediately adjacent to RPAs or canopies of retained trees is to be undertaken under the direct on-site supervision of an arboriculturist.

Existing driveway replacement

It is required for hard surfacing is to be removed and re-surfaced within the RPAs of retained trees: T21, T22, T23, T25, T26 & T28. The removal is to be undertaken under direct on-site arboricultural supervision.

The wearing course will be broken up using a hand held pneumatic breaker, hand tools and wheel barrows to break up and remove the surfacing. Where is necessary to remove the sub base this is to be undertaken using a fork to loosen the material and moved using shovels and wheel barrows.

In some situations and at the discretion of the arborist it may be possibly to use an excavator using a hydraulic breaker and a suitably sized toothless grading bucket. If an excavator is to be used it must be situated outside of the RPAs, on top of the hard surfacing working away from the RPAs or from ground boarding.

Whichever system is used there is to be **NO** disturbance of the soil beneath. If roots are found they are to be covered over with damp hessian and a layer of either sharp sand, wood chip or top soil will be applied as soon as practicably possible to prevent desiccation.

The replacement driveway will be constructed entirely above the existing soil level.

Concrete foundations

Prior to concrete being poured to form the foundations within or immediately adjacent to the RPAs of retained trees the excavation is to be lined and sealed to prevent any leaching of the concrete into the soil and causing desiccation of retained roots by concrete run off.

Manual excavation methodology for garden wall and property foundations within the RPAs of trees T22, T28 & T33

Any excavations within RPAs will be undertaken by hand under direct on-site arboricultural supervision of the required depth of the foundation; Or to a minimum of 600mm deep of any excavation, whether for proposed foundations, hard surfacing or underground services. The total depth of the manual excavation will be determined by the arboriculturist whilst on site.

Any roots found with a diameter of less than 25mm shall be cleanly severed by the arboricultural consultant. Any roots of 25mm and above shall be excavated around without damaging them; the arboricultural consultant shall decide if it's feasible or necessary to retain the root, if not it shall be severed.

The edge of the excavation closest to the trees will be covered with damp hessian to prevent soil collapse or contamination by concrete.

Soil beneath the depth may be sheet piled, regular piled or excavated deeper. Machinery may be used for this providing that it is situated outside of the RPA or has appropriate ground protection in place to move around on and work upon.

Landscaping

Any tree planting should take into consideration the available space for tree growth and development in order to ensure the trees are physically suited to the site at maturity. A specification for and notation relating to the precise alignment of replacement trees will be contained in the landscape proposals.

Landscaping around retained trees may only be carried out once all tree protection measures have been removed (planting, turfing, fencing etc.).

All excavations within the Root Protection Areas shall be undertaken by hand and without reducing current ground levels unless it is agreed in writing with the LPA. At no time is the use of a rotavator permitted within the RPAs of retained tree.

Any tree roots discovered will be left in-situ and shall not be cut or otherwise damaged. Where possible, the soil structure within the Root Protection area shall be preserved.

No works will be carried out within the RPAs of any trees if the soil moisture is of such a level that soil compaction may be likely. Should the soil become compacted or has poor structure which would hinder the development of the existing trees and plants or any new plantings the arboriculturist should be consulted about soil decompaction techniques.

Monitoring and Supervision

Where trees have been identified within this method statement and tree protection plan drawing number Arbtech TPP 01 for retention, there should be an auditable system of arboricultural monitoring. This is to extend to arboricultural supervision whenever demolition or construction activity is to take place within or adjacent to any canopy or RPA.

The development's tree protection measures are to be monitored and all demolition and construction works to be undertaken within or adjacent to the RPAs of retained trees are to be supervised by project arboriculturist, who should be retained to record and report observations to the council at appropriate intervals.

Pre-commencement site meeting

Prior to the commencement of any works or machinery and materials arriving on site a pre-commencement site meeting involving the project arborist, land owner or agent, site manager, contractors and engineer (as appropriate) and the relevant LPA officers will be held to ensure that all aspects of the arboricultural method statement and tree protection are understood and for all parties to swap contact details (see Appendix 1).

Monitoring and supervision schedule

The initial monitoring visit will be to check that the tree protective measures are in the correct location and as specified within the approved method statement; if so to sign off their installation.

There after monitoring visits are to take place at regular intervals, to ensure that tree protection measures are in place and are functioning as designed or whenever necessary to undertake works to be carried out under arboricultural supervision. The frequency of the monitoring visits is to be determined with the LPA tree officer at the pre-commencement site meeting.

A record of all arboricultural monitoring and supervision visits will be kept and any faults will be logged, this will then be copied to the site agent, developer and local planning authority in a digital format.

If during the course of the development it is necessary for areas to be re-designed so that they would require changes to the approved arboricultural method statement or tree protection plan and so affecting retained trees the project arborist and LPA tree officer will be invited to attend a site meeting with all relevant parties. Prior to any changes being implemented these must have been approved in writing by the LPA tree officer.

Supervision

The arboricultural consultant will be required to attend site to directly supervise all demolition and construction works that are to be undertaken within or adjacent to the RPAs of all retained trees and will be advised a minimum of 72 hours prior to the commencement of any works that require his attendance, these will include:

1. Pre-commencement site meeting;
2. Location of protective measures;
3. Removal & replacement of the existing driveway within the RPAs of trees T21, T22, T23, T25, T26 & T28
4. Excavations of foundations of garden wall and structure within the RPAs of trees T22 & T28;
5. Any excavations within and immediately adjacent to RPAs, including foundations, hard surfacing or underground services;
6. Removal of protective measures and sign off.

Completion meeting

Once all construction works have been completed all materials and machinery has been removed from site the project arborist shall be informed and will invite the LPA tree officer to meet on site to discuss the process and discuss any final remedial works that may be required and to sign the development off so that the protective measures may be removed.

Appendix 1: Contact Details

Name	Position	Company	Contact
Mr Michael Lee	Client		
	Tree Officer		
Mr Alan Thompson	Arboricultural Consultant	Arbtech Consulting Ltd.	01244 661170 https://arbtech.co.uk
	Site Manager		
	Main contractor		

Document Production Record

Document number	Editor	Signature	Position	Issue number	Date
Arbtech AMS 01	Alan Thompson		Arboricultural Consultant	1	09/05/2018

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Note: No unauthorised excavations are to be carried out within the RPAs of any retained trees. Any level changes must form part of a construction method statement & must protect the rooting environments of all retained trees.

Excavation for garden wall under arboricultural supervision.

Excavation for extension under arboricultural supervision.

Protective fencing

Driveway removal and replacement under arboricultural supervision

Protective fencing

Excavation for property under arboricultural supervision.

7

32a

32b

Daisy Lea Lane

The Lodge

34

Daisy Lea House

T1 T2 T3 T4 T5 T6 T7 T8 T9 T10 T11 T12 T13 T14 T15 T16 T17 T18 T19 T20 T21 T22 T23 T24 T25 T26 T27 T28 T29 T30 T31 T32 T33

G1 G2 G3 G4 G5 G6 G7 G8 G9 H1

Foul - connect to exg

SOAKAWAY

Soakaway

Gate

Wall

Bins

Driveway

Position of garage as per previous outline approval 2016/60/93702/W

Garage for Daisy Lea Lodge

Garage For New Dwelling

COURTYARD

New Detached Dwelling
FFL +186.62

Terrace

Pergola

Raised Beds

Lawn

Greenhouse

Sycamores

0m 1m 3m 5m 10m 15m 20m

Tree Categories

Trees are categorised in accordance with the cascade chart in Table 1 of the British Standard BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'

Category 'U' - Trees in such condition that they cannot realistically be retained as living trees in 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 150mm.

Root Protection Area

In order to avoid damage to the roots or rooting environment of retained trees, the Root Protection Areas (RPAs) should be plotted around each of the category A, B and C trees. This is a minimum area in m² which should be left undisturbed around each retained tree.

The RPA is calculated using the British Standard BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations.

The calculated RPA is capped to 707m², which is the equivalent to a circle with a radius of 15m. Where there appears to be restrictions to root growth the root protection area is reshaped to more accurately reflect the likely distribution of the roots.

Tree Protection Area

KEEP OUT

Do **not** move this fence

(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR ARE THE SUBJECT OF A TREE PRESERVATION ORDER. CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION

ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY

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Protective Fencing

To be erected prior to the commencement of all works on site, and retained in place throughout construction.
Default specification: To comprise either 2.4m wooden site hoarding; or a 2.3m high scaffolding framework comprising of vertical and horizontal framework, well braced to resist impacts, with uprights to be spaced at a maximum of 3.0m intervals and driven into the ground by a minimum of 600mm. On to this, standard anti-climb welded mesh panels are to be securely fixed to each other with at least two scaffold clamps and to the scaffold framework with wire.
Secondary Specification: To comprise of 2m tall welded mesh panels on rubber or concrete feet. Panels are to be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The panels should be supported on the inner side by stabilizer struts, which should should be attached to a base plate and secured with ground pins.
All weather notices should be erected at regular intervals on the weld mesh panels with words such as "Construction exclusion zone - Keep out".

Hard Surfacing Removal

Removal of and or replacement of hard surfacing situated either partially or completely within the RPAs of retained trees shall be undertaken with care and under the direct on-site arboricultural supervision as these areas are likely to contain roots.
Where this is necessary the wearing course will be broken up using a hand held pneumatic breaker, hand tools and a wheel barrow to break up and remove the surfacing. If it is necessary to remove the sub base this is to be undertaken using hand tools such as a fork to loosen the material and removed using shovels and wheels barrows.
In some situations and at the discretion of the arborist it may be possibly to use an excavator using a hydraulic breaker and suitably sized toothless grading bucket. If an excavator is to be used it must be situated outside of the RPAs, on top of the hard surfacing working away from the RPAs or from ground boarding.
Which ever system is used the is to be **NO** disturbance of the soil beneath. If roots are found they are to be covered over with damp hessian and a layer of either sharp sand, wood chip or top soil to prevent desiccation.

Supervised Excavation

Excavation within RPAs are to be undertaken under direct on-site arboricultural supervision. Excavation will consist of a mixture of mechanical and manual excavation.
Initial excavation will be undertaken by hand under to a minimum of 200mm deep of any excavation, the soil is to be loosened with the use of a fork or pick and then cleared with the aid of an air-spade, air-vac or shovel. There after excavation can be undertaken using an excavator with a suitably sized toothless grading bucket using a grading motion rather than digging and taking no more than 10 - 20mm deep swipes at any time, if any roots are discovered mechanical excavation will be stopped immediately and manual excavation will resume to expose the root. All roots to be cut will be cleanly severed with the use of a hand saw or secateurs. The edge of the excavation closest to the retained trees will be covered over with damp hessian to prevent drying out, and where necessary be shuttered to prevent soil collapse or contamination by concrete. If appropriate soil beneath the depth 600mm may be sheet piled, tegular piled or individual piles. Any deeper excavations may be undertaken by a machine provided it works form outside of the RPA or has appropriate ground protection in place to move and work upon.

Arboricultural Supervision

The arboricultural consultant will be required to attend site to directly supervise all demolition and construction works that have to be undertaken within the root protection areas. This will include:
1. Pre-commencement site meeting.
2. Location of protective measures.
3. Removal and replacement of the existing driveway within the RPAs of trees T21, T22, T23, T25, T26 & T28.
4. Excavation of foundations for garden wall & property within the RPAs of trees T22 & T28.
5. Any excavations within or adjacent to RPAs, including foundations, hard surfacing or underground services.
6. Removal of protective measures and sign off.

Arboricultural Method Statement

Please refer to Arbtech Consulting Ltd. Tree Schedule and Arboricultural Method Statement, for full details on all surveyed trees and how all aspects of the the development maybe implemented without detriment to retained trees.

Arboricultural Impacts Addressed

No.	Species	Proposed structure	Incursion
T21	Sycamore	Driveway	RPA
T22	Common lime	Driveway & property	RPA
T23	Cherry laurel	Driveway	RPA
T25	Leyland cypress	Driveway	RPA
T26	Leyland cypress	Driveway	RPA
T28	Sycamore	Driveway & garden wall	RPA
T33	Sycamore	Garden wall & extension	RPA

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34 Daisy Lea Lane,
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Client:
Michael Lee

Drawing:
Tree Protection Plan

Based on:
Site plan 20180509

Drawing No:	Rev:
Arbtech TPP 01	

Date:	Scale:	Drawn:
May 2018	1:150 @ A1	AST

Key:

Tree Nos.:	T1	Tree Canopies:		Trunks:	
RPAs:		Category 'U' trees:		Category 'A' trees:	
Category 'B' trees:		Category 'C' trees:		Location of removed tree:	T4
Protective fencing:		Hard surfacing removal:		Supervised excavation:	

All dimensions should be checked on site. No dimensions are to be scaled from this drawing.
Please notify us of any discrepancies found. Arbtech Consulting Ltd. cannot be held responsible for inaccuracies in the base drawing in which this plan is based.
This drawing is designed to reflect the principles of the layout or design only, and relates only to the protection of retained trees.
This drawing is not to be read as a definitive part of the engineering or construction designs or method statement. An architect or structural engineer should be contacted over any matters of construction, detailing or specification and for any standards or regulatory requirements relating to proposed structures, hard surfacing or underground services.
This drawing was produced in colour - a monochrome copy should not be relied upon.

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Tree Protection Area

KEEP OUT

Do **not** move this fence

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