STAGE 1
ARBORICULTURAL REPORT WITH
TREE CONSTRAINTS PLAN
&
ARBORICULTURAL IMPACT ASSESSMENT
TO AID IN THE
SITE DESIGN / LAYOUT

CONSULTING ARBORIST:  GARY MARSDEN
FDSc Arb  M.Arbor.A

ARBORICULTURAL REPORT PREPARED FOR:  Ribchester Playing Field Trust (Charity)
and Ribchester football club

SITE ADDRESS:  Ribchester football pavilion,
Pop Croft,
off Church St
Ribchester
Validation statement for council registration of this report

In accordance with the Department for Communities and Local Government circular 02/2008 and its guidance document Validation of Planning Applications, this report fulfils the recommended national list criteria for tree survey/arboricultural information. More specifically, it contains the following:

- A full tree survey compliant to the requirements of BS5837; (2012) Trees in relation to design, demolition and construction - Recommendations undertaken by a qualified arboriculturist.

- A plan to a suitable scale with a north point and showing tree survey information, retention categorisation and root protection areas, tree height and ultimate tree height.

- An assessment of the arboricultural impacts of development detailing trees to be retained / removed and appropriate protection measures.
1.0 Introduction

1.1 Instruction:
I am instructed by Peter Forbes working on behalf of Ribchester Playing Field Trust (Charity) and Ribchester football club (referred to as the ‘client’ from here on) to inspect any significant trees that could have an effect on the development at Ribchester football pavilion, Pop Croft, off Church St Ribchester and to provide the following information to aid in the design of the site:

- A schedule of the relevant trees to include basic data and a condition assessment as per section 4.4.2.5 of BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations.
- A tree constraints map showing: root protection areas, above ground constraints, crown spreads, retention categories, tree height plus ultimate tree height.

From this data I have also produced an Arboricultural Impact Assessment (AIA) based on the initial tree survey, any designs of the site by the client.

1.2 Purpose of this report:
This reports primary purpose is to allow the architect to design relevant buildings / site layout while taking into account any impact this will have on the retained trees on site.

Within this planning process, this report will be available for inspection by people other than tree experts so the information is presented to be helpful to those without a detailed knowledge of the subject.

1.3 Qualifications and experience:
I have based this report on my site observations and any provided information and I have come to conclusions in the light of my experience. I have experience and qualifications in arboriculture, and include a summary in Appendix ‘A’.

1.4 Documents and information provided:
My client or architect provided me with copies of the following documents or information:

- Their e-mail of instruction outlining the situation;
- Their email commissioning this report and agreeing to the T&C and cost.
- Document: Ribchester pavilion sketch 01 15 (6 pages)

1.5 Relevant background information:
Prior to the site survey, my client advised me that:

- The intention is to demolish the existing pavilion located to the south of the football pitch and to construct a new larger pavilion in its place. This will incorporate changing facilities, showers, toilets and secure storage space for kit and equipment.
- The intention is to keep the building in the far south east corner and give adequate clearance to the football pitch (approximately 5m from the rear goal line).
- The area of the proposed development is a scheduled monument below ground, so consideration needs to be taken primarily to foundation depths on this site.
1.6 **Scope of this report:**

This report is only concerned with the prominent trees within or around the proximity of the site that could influence the development of this site. It takes no account of any trees outside this remit or any building structural issues. It includes a preliminary assessment based on the site visit and any documents provided, listed in 1.4 above. The survey is based upon information that was available at the time of the inspection. Further inspections are necessary over time to give a fuller picture of the health of trees.

1.7 **Mapping:**

Site plans showing all tree locations and any relevant details can be found in Appendix ‘D’

1.8 **Justification of work:**

Where management action / tree surgery are recommended, this is based on maximizing the tree’s safe useful life expectancy (SULE), given its current situation or the safety of persons and surrounding targets.

2.0 **Limitations**

2.1 The inspection was carried out from ground level only and relates only to arboricultural aspects. All visual observations and recommendations, relate, to the condition of the trees on the day of the survey. The trees have been assessed with the aid of a Nylon mallet for the purpose of detecting changes in resonance which may indicate that further investigation is required. Any unusual weather conditions, changes in soil, soil levels and changes to surroundings may result in a dramatic change in the trees health.

2.2 Due to the changing nature of trees and other site circumstances, this report and any recommendations made are limited to a 12-month period. Any alteration to the site and any development proposals could change the current circumstances and may invalidate this report and any recommendations made.

2.3 Trees are dynamic structures that can never be guaranteed 100% safe: even in good condition they can suffer damage under average conditions. Regular inspections can help to identify potential problems before they become acute.

2.4 A lack of recommended work does not imply that a tree is safe and likewise it should not be implied that a tree would be made safe following the completion of any recommended work.

2.5 This report does not consider the structural condition of existing buildings, nor the impact of existing trees on their foundations. If there are concerns over such matters the advice of a structural engineer should be sought.

3.0 **Site visit and observations.**

3.1 **Site visit:**

- I carried out an unaccompanied site survey on 23rd October 2015.
- All my observations were from ground level without detailed investigations and I measured all dimensions unless otherwise indicated.
- I did have access to trees outside the client’s boundaries and consent was given to inspect and take measurements as needed or the trees were on public open space.
3.2 **Brief site description:**
- The playing fields are located in the residential area of Ribchester.
- The site is to the rear of the properties on the western side of Church Street and surrounded by residential properties and green open space.
- The site consists of a large playing field with the existing building located to the southern end of the site.
- The surrounding topography is relatively flat and the site is not particularly exposed.
- Utility services were observed on site: these were overhead lines running along the eastern perimeter of the site.
- No visual inspections of any services were made below ground level.
- The site is
- There is no known history on this site either personal nor from a third party.

3.3 **Identification and location of the trees:**
I have illustrated the locations of the significant trees on the digital maps included in Appendix ‘D’. These plans are for illustrative purposes only and it should not be used for directly scaling measurements. All the relevant information on it is contained within this report and the provided documents.

3.4 **Soil assessment**
An assessment of the underling bedrock profile has been undertaken using the British Geological Survey web site ([http://mapapps2.bgs.ac.uk/geoindex/home.html](http://mapapps2.bgs.ac.uk/geoindex/home.html)) to determine as far as reasonably practicable the presence of any shrinkable clay soils and there possible implications on the design of the development.

The bedrock formation found on or around this site is:
- SABDEN SHALES - MUDSTONE AND SILTSTONE

The superficial deposits found on or around this site are:
- RIVER TERRACE DEPOSITS, 2 - SAND AND GRAVEL

From this data it has been determined that the soil is not shrinkable. If a more detailed analysis is required, then this must be undertaken by an expert in soil analysis with access to a specialist laboratory.

3.5 **Restrictions:**
The Arboricultural Officers details are listed below:

David Hewitt,  
Arboricultural Planning and Tree Preservation Officer,  
Ribble Valley Borough Council  
Council Offices,  
Church Walk,  
Clitheroe,  
Lancashire,  
BB7 2RA  
Tel: 01200 414505,  
E-mail: david.hewitt@ribblevalley.gov.uk
Tree Preservation Orders (TPO)
A tree preservation order, referred to as a ‘TPO’, is an order made by a local planning authority (‘LPA’) in respect of trees or woodlands.

The principal effect of a TPO is to prohibit the: Cutting down, uprooting, topping, lopping, wilful damage, or wilful destruction of trees without the LPAs consent. The cutting of roots is potentially damaging and so, in the Secretary of State’s view, requires the LPAs consent.

Anyone who, in contravention of a TPO, wilfully damages a tree in a way that is likely to destroy it is guilty of an offence. Anyone found guilty of this offence is liable, if convicted in the Magistrates Court, to a fine of up to £20,000. In serious cases a person may be committed for trial in the Crown Court and, if convicted, is liable to an unlimited fine.

Conservation Areas (CA)
Conservation Areas are areas of special architectural or historical interest with a character or appearance that is desirable to preserve or enhance. Trees may often contribute to the special character of the area.

All trees in a Conservation Area are subject to controls which enable the LPA to protect the special character of the area created by the trees. If trees have a specific Tree Preservation Order (TPO) on them, then the normal Tree Preservation Order controls apply.

You must give the LPA 6 weeks’ notice, in writing, of your intention to do any work to trees in a Conservation Area. You must not carry out any work during the six week period, which starts from the date of receipt of your notification by the council, unless you receive written permission to do so.

Work which is not exempt and is carried out without formal notification or within the six week period without the written consent of the council is illegal. The LPA may prosecute offenders and fines of up to £20,000 for each tree may be imposed by the Magistrates Court in the event of offenders being convicted of an offence. If proceedings are instituted in the Crown Court fines are unlimited. There is a duty to replace any tree removed without permission.

It is strongly advised that prior to undertaking work to tree/s an up to date check is carried out to establish if a TPO / CA is in force on the tree/s.

The information in this report is correct at the time of writing but it is possible that conditions could have been applied to the tree/s after this report was written.

3.5 Collection of basic data:
I inspected each tree and have indicated the numbering on the site map enclosed in Appendix ‘D’. I identified obvious hedges and groups where appropriate. For each individual tree, group or hedge, I collected information on species, height, diameter, maturity and potential for contribution to amenity in a development context. I have recorded this information in the tree schedule included as Appendix ‘E’.

I stress that my inspection was of a preliminary nature and did not involve any climbing or detailed investigation beyond what was visible from accessible points at ground level. This data collection is fully compliant with the BS 5837:2012 Trees in relation to design,
demolition and construction – Recommendations set out in subsection 4.4.2.5 of the standard.

4.0 Tree Categorisation

4.0 Guidance:
BS 5837:2012 is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 30 April 2012 and supersedes BS 5837:2005, which has been withdrawn.

BS 5837:2012 provides recommendations and guidance for arboriculturists, architects, builders, engineers, and landscape architects. It is also expected to be of interest to land managers, contractors, planners, statutory undertakers, surveyors, and all others interested in harmony between trees and development in its broadest sense.

The category for the tree is ascertained by following the guidelines in the BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations “Cascade chart for tree quality assessment” included with the TCP tree schedule in Appendix ‘F’. A brief summary of each category is outlined as follows:

4.1 Category ‘A’ trees:
This category signifies trees that are of a high quality and value with an estimated remaining life expectancy of at least 40 years. Occasionally a veteran tree, although not in the best condition may warrant this category because of its wildlife and cultural value.

It is essential to retain these trees. The design of the proposed development should take into account the retention of category ‘A’ trees. A design layout that suggests the removal of category ‘A’ trees has a high increased risk of planning refusal.

4.2 Category ‘B’ trees:
This category signifies trees that are of a moderate quality and value with an estimated remaining life expectancy of at least 20 years.

It is important to retain these trees. The design of the proposed development, where feasibly possible, should take into account the retention of category ‘B’ trees. A design layout that suggests the removal of category ‘B’ trees has an increased risk of planning refusal.

4.3 Category ‘C’ trees:
This category signifies trees that are of low quality and value with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.

They are generally trees that could remain and are expected to have a safe useful life expectancy of between 10 and 20 years if no development were to occur. However, because of their generally low quality it would not be a great loss if they had to be removed if they were a significant constraint to the design or construction process of the proposed development. Particular attention is drawn to the phrase “significant constraint”.

4.4 Category ‘U’ trees:
This category signifies trees that are in such a condition that they cannot be realistically be retained as living trees in the context of the current land use for longer than 10 years
and which should, in the current context, be removed for reasons of sound arboricultural management.

### 5.0 Root Protection Areas (RPAs)

5.1 **Why do we need root protection areas?**
Approximately eighty percent of a tree’s roots are in the top 600 mm of soil. Therefore any changes in this vital environment including: ground level, soil compaction, physical damage to roots, moisture or levels of contaminants can have a dramatic effect on the health of a tree. At deeper strata alterations in water table and routing of services can cause detrimental, long term, effects.

5.2 **Method of calculations:**
The area of roots that need to be protected around a tree to try and ensure that it does not suffer damage during the construction process is called the Root Protection Area (RPA).

The RPA is calculated using a formula based upon the diameter of the tree at 1.5 metres high for single stem trees and near ground level for multi-stem trees. At this stage it is generally represented by a circle centred on the trees stem. A small percentage lost from the outside of the circle may be tolerated by the tree or offset in another direction. However, where there are significant existing constraints additional root loss in close proximity near to a tree’s stem is likely to have a detrimental effect on the trees health or even complete failure of the root plate.

5.3 **How to use RPAs:**
The RPAs for the trees in question are indicated in Appendix ‘E’. At this point the RPA is only indicative and intended to assist in preparing the design layout.

5.4 **Optimum RPA calculation:**
If the site conditions prevail it is recommended to increase the size of the RPA to accommodate as much potential rooting area as possible, this it will reduce any conflict with the tree and minimise the chance of rejection / conflict with the planning application / Local Planning Authority.

### 6.0 Pre Development Appraisal

6.1 **Category ‘U’ trees (Removal):**
There are no category ‘U’ trees located on or bordering this site that are recommended for removal regardless of whether development proceeds.

6.2 **Category ‘A’ trees:**
There are no category ‘A’ trees located on or bordering this site.

6.3 **Category ‘B’ trees:**
There are 4 trees that should be retained if feasibly possible in line with the proposed development. Each tree should be assessed as to the impact it has on the development and recommendations drawn from this as to whether removal is an option.

6.4 **Category ‘C’ trees:**
There are no category ‘C’ trees located on or bordering this site.
6.5 **Groups:**
There are no groups located on or bordering this site.

6.6 **Conflict:**
There is a potential for impact to the trees root system from the construction of the foundation, depending on the design of the foundation this can minimised, consideration also needs to be given to the ancient monument status given to the site that is located underground, the archaeological level is at -400mm.

Deep excavations should be avoided and with this the proposal is to use a raft foundation as opposed to trench or piling. The raft will only have a depth of 150mm - 250mm below ground level as per drawing “ground detail”. This will allow for a large footprint / load baring area while keeping the depth of excavation needed to a minimum,

In my opinion with the drop in ground level from the trees original growing point (approximately 600mm), the limited amount of excavation needed and appropriate temporary ground protection while construction takes place, any impact on the tree will be minimal with the condition that a detailed method statement is produced for the contractor to follow, this will protect the tree roots as much as is reasonably practicable during site activities.

These foundation designs and opinions have been communicated via email and phone conversation with Dave Hewitt prior to writing this report and in principle he agrees with this conclusion.

The following arboricultural impact assessment is written based on the above comments.

6.7 **Tree works:**
The management options noted in the survey data should be followed so to keep a maintained tree stock on and around this development site, particularly giving clearance from properties and over any adopted roads or footpaths.
7.0 Arboricultural Implications Assessment

7.1 **Summary of the impact on trees:**
I have assessed the impact of the proposal on the trees / groups by the extent of disturbance in and around the RPAs and the current and future canopy height and spread. All the trees / groups that may be affected by the development proposal are listed in table 1.

**Table 1:** Summary of the trees / groups that may be affected by the development on this site if the current proposed plans are implemented.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Reason</th>
<th>Important trees</th>
<th>Unimportant trees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trees / groups to be removed</td>
<td>Building construction, new surfacing, tree quality and / or, proximity</td>
<td>A</td>
<td>#</td>
</tr>
<tr>
<td>Trees / groups that may be adversely affected by the tree canopy or through disturbance to RPAs</td>
<td>Removal of existing surfacing / structures / landscaping and or installation of new surfacing / structures / landscaping</td>
<td>#</td>
<td>T001</td>
</tr>
</tbody>
</table>

*note - Any trees / groups not mentioned above will be unaffected by this development proposal

7.2 **Category A and B trees to be removed:**
There are no category ‘A’ trees located on or immediately adjacent to the site that are to be removed.

There are no category ‘B’ trees located on or immediately adjacent to the site that are to be removed.

7.3 **Category A and B trees that may be adversely affected through RPA disturbance:**
There are no category ‘A’ trees located on or immediately adjacent to the site that may be adversely affected through RPA disturbance.

Four category ‘B’ trees may be adversely affected by the installation of new foundations for this building.

These trees are considered important for retention and have potential to contribute to amenity, so any adverse impacts on them should be minimised. I have reviewed the situation carefully and my experience is that these trees could be successfully retained without any significant adverse effects if appropriate protective measures are properly specified and controlled through a detailed arboricultural method statement.
7.4 **Category C trees to be lost:**
There are no category ‘C’ trees located on or immediately adjacent to the site that are to be removed.

7.5 **Retained category C trees that may be adversely affected through RPA disturbance:**
There are no category ‘C’ trees located on or immediately adjacent to the site that may be adversely affected through RPA disturbance.

7.6 **Presence of Tree Preservation Orders (TPO) or Conservation Area Designation:**
There is a Tree Preservation Order in place on the trees within the proposed development site at the time of writing this report. As confirmed verbally by my client and Dave Hewitt (tree officer).

7.7 **Effects of new buildings on amenity value on or near the site:**
The effect of the new construction on this site have been assessed and have been found not to have any significant effect on the amenity value of the remaining trees on site.

7.8 **Below ground constraints:**
Works will be required within the root protection area of the trees; this will be to allow the raft foundations to be laid as per the clients drawing in appendix ‘D’. Temporary ground protection and protective fencing must be erected prior to any site activities so to minimise any impact on the trees (see image in appendix ‘D’). This must be detailed in an arboricultural method statement and managed on site with arboricultural supervision.

With these precautions in place in my opinion there will be minimal impact on the trees rooting system, the majority of the trees rooting area will be to the south of the development and not be affected, approximately 20-30% of the rooting area will be covered by the footprint but this area is already affected by the existing pavilion and potentially a hostile rooting area due to the lack of air and water availability.

7.9 **Above ground constraints:**
No significant conflict with above ground constraints are foreseen with the planned proposal. There may be selective pruning of some low canopy branches needed to facilitate the construction of the site depending on construction methods. This can be addressed in a method statement for the site.

7.10 **Construction processes of the proposed development:**
Development processes that lead to soil compaction in tree rooting zones and physical damage to trees can adversely affect long-term tree health. This can lead to unnecessary tree loss if not controlled properly on site during the demolition of a building and then the construction phases that follow.

The processes of construction are highly unlikely to have a detrimental effect upon the health of the retained trees assuming recommendations made in this report and an Arboricultural method statement are adhered to at all times by the contractors e.g. the positioning of a stout fence and ground protection between the retained trees construction activities is placed prior to commencement of works and remains intact and in position throughout the duration of the construction activities.
7.11 Modifications proposed to accommodate trees:
The siting of the dwellings dispenses with a need to modify building construction to accommodate retained trees. There are no windows to the rear elevation so the retained trees will not impact on light infiltration to the windows. This will negate the need for subsequent calls for tree pruning due to shading.

7.12 Infrastructure requirements – highway visibility, lighting, CCTV, services etc:
The installation of services within the rooting zones of trees can have a large detrimental impact on the long-term survival of retained trees leading to their unnecessary loss or root failure in high winds.

No services are to be installed within any tree RPA.

The trees on site do not have any impact on highway visibility.

Undisclosed sighting of above ground services, CCTV cameras, electrical sub-stations, refuse stores, lighting and other infrastructure requirements can lead to unnecessary pruning of tree crowns or root failure during or post development. There are no such developments planned to take place adjacent or within the RPA of any retained trees.

7.13 Mitigating tree loss / new planting:
No tree loss will take place as a result of the development of the site and as a result no replanting will be required on this site.

7.14 Proximity of trees to structures:
With the impact of trees on buildings, and vice versa, allowances for future growth have all been considered in the sighting of the new dwellings. Tree size, future growth, light / shading, leaf and fruit nuisance etc have received due attention and are not considered to be a significant issue as the building is not to be used a residential.

8.0 Proposals to mitigate any impact

8.1 Protection of retained trees:
The successful retention of trees depends on the protection and the administrative procedures to ensure those protective measures remain in place whilst there is an unacceptable risk of damage. An effective means of doing this is through an arboricultural method statement that can be specifically referred to in a planning condition. An arboricultural method statement for this site can be written at an additional commission.

8.2 New planting:
No replanting will be required on this site.

8.3 Summary of the impact on local amenity:
This proposal will not result in the loss of any trees. All the significant boundary tree cover located on the southern boundary will remain intact.

The construction activity and proposed changes may adversely affect further trees if appropriate protective measures are not taken. However, if adequate precautions to protect the retained trees are specified and implemented through an arboricultural
method statement, the development proposal will have no significant adverse impact on the contribution of trees to local amenity or character.

9.0 Other Considerations

9.1 Trees subject to statutory controls:
If any trees are covered by a tree preservation order or located in a conservation area, it will be necessary to consult the council before any pruning works other than certain exemptions can be carried out. The works specified above are necessary for reasonable management and should be acceptable to the council. However, tree owners should appreciate that they may take an alternative point of view and have the option to refuse consent.

9.2 Trees outside the property boundaries:
Any trees that are located in adjacent properties are effectively out of the control of the client / land owner. It will not be possible to easily carry out any recommended works without the full co-operation of the tree owners. The implications of non cooperation require legal interpretation and are beyond the scope of this report. By common law, branches from trees on adjacent properties extending over boundaries can be pruned back to the boundary line without the permission of the owners. However, the material belongs to the tree owner and the same guidance on statutory controls applies as discussed in 9.1 above.

9.3 Development within the rooting area:
The zone of influence has been determined using the calculation outlined in Table 2, of section 5.2.2 of BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations. This calculation utilises the diameter of the trunk, at a height of 1.5m from the surrounding ground level; and calculates the root protection area (RPA) by multiplying the diameter by a value of 12; the result is then used to calculate the total area (m²) of the RPA. The calculations are illustrated in the tree survey data in Appendix ‘E’.

9.4 Construction Exclusion Zone:
The values indicate the area of soil around the base of the tree to be retained undisturbed. This area should be protected with vertical barriers and considered sacrosanct. Signs should be erected on the fencing to indicate that the area is a Construction Exclusion Zone (CEZ).

9.5 Arboricultural Method Statement:
A detailed Arboricultural Method Statement (AMS), outlining the different stages and progression of construction is available as a further commission. This process should be undertaken once the final decision has been made on the proposed structure (if requested by the Local Planning Authority (LPA).

9.6 Implementation of works:
All tree works should be carried out to BS 3998 Recommendations for Tree Work as modified by more recent research. It is advisable to select a contractor from the local authority list and preferably one approved by the Arboricultural Association. Their Register of Contractors is available free from:

Arboricultural Association
The Malthouse,
9.7 **Local Arboricultural Contractors:**
If requested I can provide a list of reputable arboricultural contractors that have carried out work on previous projects.

9.8 **Safety:**
Tree works can be a hazardous profession, so it is important that all operatives have the necessary and relevant training, health and safety policy and valid forms of insurance.

9.9 **Statutory wildlife obligations:**
The Wildlife and Countryside Act 1981 as amended by the Countryside and Rights of Way Act 2000, provide statutory protection to birds, bats and other species that inhabit trees. All tree work operations are covered by these provisions and advice from an ecologist must be obtained before undertaking any works that might constitute an offence.

9.10 **Future considerations:**
Any remaining trees should be inspected on a regular basis by a qualified arboricultural consultant.

9.11 **Replanting:**
Any trees on this site that are protected by a preservation order and are being recommended for removal, the appropriate replanting of replacement trees will be needed as a condition of the council granting permission for these trees being felled. This should be incorporated into the landscaping plans at the design stage and followed through after building work is completed.

10.0 **Bibliography / References**

BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations. – BSI Publication

BS 3998: 2010 Tree work – Recommendations – BSI Publication

[N1]NATIONAL JOINT UTILITIES GROUP (NJUG). *Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees.*

Arboricultural Practice Note (APN) 12 – Through the trees to Development – Derek Patch and Ben Holding – Arboricultural Advisory and Information Service

communication with local Arboricultural / Planning Officer
APPENDIX ‘A’

Brief qualifications and experience of Gary Marsden:

Qualifications:
- National Certificate in Arboriculture – August 1998
- The Leonard Cheshire Home Award, Practical Award – September 1998
- NVQ in Amenity Horticulture Level 1 – November 2003
- Foundation Degree in Science, Arboriculture - June 2005
- BTEC Higher National Diploma in Arboriculture – June 2005
- Certified Expert Witness by Cardiff Law School / Bond Solon – December 2011

Practical experience:
After qualifying at NC level in arboriculture I gained full time employment with Blackburn with Darwen Borough Council as an Arborist / Climber (September 1998) where I gained a wide range of practical Arboricultural experience ranging from pruning, dismantling and planting.

In January 2004 I was promoted to Team Leader Arborist where I developed my skills in Arboriculture, leadership, organisation and prioritising workloads.

In August 2005 I was promoted to ‘Arboricultural Officer’ this job involves:

- Health and Safety of all Arboricultural aspects
- Inspection and scheduling of tree complaints
- Tree surveys and report writing
- Staff management

In July 2008 I set up my own tree consultancy company – GM Tree Consultants – which I am constantly developing and evolving.

Continuing professional development:
As a conscious effort to stay in touch with the progression in modern techniques and practices in the arboricultural industry, I attend seminars, receive regular arboricultural literature and maintain membership of professional bodies, examples of which are listed below:

- Arboricultural Association Professional Member since November 2006
- Professional Member of the Consulting Arborist Society since May 2009
- Quantified Tree Risk Assessment licensed user since October 2008
- Attendance of Arboricultural Association annual conferences
- Attendance of specialist short courses in relation to specific fields in arboriculture including: Tree Preservation Orders, Subsidence and mortgage reports, Planning legislation and Tree inspection methods and skills.
- Accredited as an Expert Witness by Cardiff University Law School / Bond Solon since December 2011

A detailed breakdown of qualifications and continued professional development training is available; please contact me directly for this information if requested.
APPENDIX ‘B’

Site Location aerial photo:
APPENDIX ‘C’

Tree survey Index

Tree Locations:
This has been measured using a laser distancing device with a digital compass and plotted on the site plan using tree management software. The accuracy given for the tree stem location is ±1m.

Tree Number:
Each surveyed feature is assigned an individual number:
e.g. – Tree A072014013 is made up of:
- ‘A’ – this represents the tablet pc that was used to record the data
- ‘07’ – this is the month that the inspection was recorded
- ‘20’ – the day of the month when the tree was recorded
- ‘14’ – the hour in the day when the tree was recorded
- ‘013’ – the tree number recorded in that hour of the day (when the hour changes this resets to 001)

Alternatively; each surveyed feature is assigned a number prefixed by a ‘T’ for individual trees, ‘G’ for groups of trees and ‘H’ for hedgerows. It is used to locate the tree in the data survey and the relevant position on the plan.

Species:
The species identification is based on visual observations and the common English name of what the tree appeared to be is listed first. In some instances, it may be difficult to quickly and accurately identify a particular tree without further detailed investigations. The botanical name is followed by the abbreviation sp if only the genus is known.

Measured (M) or Estimated (#)
Trees that have been accurately measured are indicated with an ‘m’. Trees that are off site or otherwise inaccessible where accurate date cannot be recovered; these trees are indicated with ‘#’.

Number of stems:
The number of main stems of each individual tree.

Stem Diameter:
These figures relate to stem diameter in millimetres at 1.5m above ground level. This is accurately measured using a girth tape, unless access is restricted.

Diameters of single stem trees on level ground are measured in accordance with Figure C.1a). Diameters of other commonly encountered tree stems are measured in accordance with Figures C.1b) to C.1f).

NOTE - The thick black line indicates where the measurement is taken.
Root Protection Area:
This is the minimum area in m² which should be left undisturbed around each retained tree.

Height:
Overall height of tree recorded in meters. Height is recorded using a digital clinometer.

Potential Height of species:
The expected mature height of the tree as a ‘species’.

Potential Spread of species:
The expected mature spread of the tree as a ‘species’.

Height of first branch and direction:
Existing height in metres of the first significant branch above ground level and the direction of growth in relation to the 4 cardinal points (NSEW).

Height of canopy above ground level:
Existing height in meters of the canopy above ground level.

Branch Spread:
This is measured in meters taken at the four cardinal points (NSEW) to derive an accurate representation of the crown.

Life stages:
Described as young, semi mature, early mature, mature, over-mature / veteran.

Physiological Condition:
Described as good, fair, poor, dead and notes as needed.

Structural Condition:
Described as good, fair, poor, dead and notes as needed.
Preliminary management recommendations:
Practical arboricultural operations that are suggested and described as needed.

Remaining Contribution:
Estimated remaining contribution in years: e.g. <10, 10+, 20+, 30+, 40+. This is based upon Jeremy Barrels’ system of SULE (Safe Useful Life Expectancy).

Tree Retention Category Grading:
U or A to C category grading as referenced from BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations. (see Table 1 in appendix ‘F’)
APPENDIX ‘D’

Inserted site maps showing tree locations and all other relevant details:
Ribchester football pavilion – Job Ref/0712 Tree Protection Plan (TPP)

Protective fencing as per BS:5837

Temporary ground protection 2m wide to allow foot traffic and/or scaffolding to be erected – to be detailed in arb method statement
Cedar timber finish

Insulated SIPS wall panel

Ground level

Fermacell lining

non slip floor tiles

60mm screed

underfloor heating pipes

50mm floor insulation

Dampproof membrane

150mm concrete raft foundation with mesh reinforcement

150mm compacted stone hardcore

Archaeology level (- 400mm)
APPENDIX ‘E’

Tree survey data inserted including the calculations for the root protection zones:
<table>
<thead>
<tr>
<th>Job Ref: 0712</th>
<th>Survey Date: 23/10/2015</th>
<th>Site: Ribchester football pavilion</th>
<th>Surveyor: Gary Marsden</th>
<th>BS:5837 (2012) TREE SURVEY DATA</th>
<th>Tel: 077 6166 7384</th>
<th>GM TREE CONSULTANTS</th>
</tr>
</thead>
</table>

**TREE SURVEY DATA**

<table>
<thead>
<tr>
<th>Cat.</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-2</td>
<td>1-3</td>
</tr>
</tbody>
</table>

---

### TREE QUALITY ASSESSMENT

<table>
<thead>
<tr>
<th>No.</th>
<th>Species</th>
<th>Description</th>
<th>Height (m)</th>
<th>Single Trunk dia. @ 1.5m (mm)</th>
<th>Height of first branch (m) &amp; direction (NSEW)</th>
<th>Height of canopy above G/L (m)</th>
<th>Physiological Condition</th>
<th>Structural Condition</th>
<th>Preliminary management recommendations to ensure SULE is at least 10 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>sycamore</td>
<td>m</td>
<td>1100</td>
<td>#</td>
<td>#</td>
<td>100</td>
<td>good</td>
<td>no significant visual issues</td>
<td>fair - multiple branch union at 3m</td>
</tr>
<tr>
<td>2</td>
<td>sycamore</td>
<td>2</td>
<td>700</td>
<td>400</td>
<td>#</td>
<td>80</td>
<td>good</td>
<td>no significant visual issues</td>
<td>good - no significant visual issues</td>
</tr>
<tr>
<td>3</td>
<td>sycamore</td>
<td>1</td>
<td>800</td>
<td>#</td>
<td>#</td>
<td>700</td>
<td>good</td>
<td>no significant visual issues</td>
<td>good - no significant visual issues</td>
</tr>
<tr>
<td>4</td>
<td>sycamore</td>
<td>1</td>
<td>700</td>
<td>#</td>
<td>700</td>
<td>8.40</td>
<td>m</td>
<td>no significant visual issues</td>
<td>good - no significant visual issues</td>
</tr>
</tbody>
</table>
APPENDIX ‘F’

Cascade chart showing tree retention categories exerted from:

BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations.
I hope that this report provides all the necessary information, but should any further advice be needed please do not hesitate to contact me.

Signed

Gary Marsden FDS​c Arb M.Arbor.A
Professional Member - Arboricultural Association (AA)
Professional Member - Consulting Arborist Society (CAS)

For and on behalf of GM TREE CONSULTANTS

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