



ArbTS - Arboricultural Technician Services Ltd

(Tree Consultancy Services)

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Arboricultural Report

Including:

Tree Survey Data &

Tree Constraints Plan,

Arboricultural Impact Assessment,

Tree Protection Plan and Arboricultural Method Statement

To the British Standard 5837:2012
*(Trees in relation to design, demolition
and construction. Recommendations)*

Date – 8th April 2021

Site – Meadow Road, Neath

(On behalf of Jones Brothers and Tai Tarian)

Project Reference – ArbTS_717.11_MeadowRoad

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1.0 Introduction

- 1.1 The purpose of this report is to give an assessment to the quality of the trees at Meadow Road, Neath, assess the arboricultural impact of the proposed development design and provide details regarding the protection of retained trees during construction work.
- 1.2 This report identifies the quality of the trees on this site as categorised by the *British Standard 5837:2012, Trees in relation to design, demolition and construction - Recommendations*. The survey and findings as reported here, represent an unbiased third party opinion offering professional advice as to the value of the trees on or adjacent to this site. To illustrate the constraints identified trees pose to the design of future development a Tree Constraints Plan (TCP) has been drawn as found at Appendix 2.
- 1.3 Arboricultural constraints within the surveyed site relates primarily to the preservation of trees recommended for retention. Identified trees must be protected during the construction phase through the employment of a combination of tree protection methods as illustrated in Appendix 4 Tree Protection Plan and detailed within Section 6 - Arboricultural Method Statement.
- 1.4 The trees' root system and the associated soil structure is often over looked during the construction process and can be damaged or altered by compaction causing major damage to the health of the tree. Generally the entire root system of the tree is within the top 600mm of soil where it can be easily damaged. A calculated area of ground around the tree should be protected for the duration of the onsite construction phase. In this report it is referred to as the Root Protection Area (RPA).

2.0 The Tree Survey

- 2.1 The tree survey was conducted by *Stephen Lucocq BSc (Hons), Tech Cert (ArborA), M.Arbor.A* on 12th July 2019 and the eastern field area resurveyed on 28th August 2020.
- 2.2 Trees over 75mm were tagged where appropriate with numbered metal identification tags at around 2.0 metres above ground level.
- 2.3 All observations were made from the ground with the aid of an acoustic sounding hammer. No invasive decay detective instruments were used.
- 2.4 The survey was carried out in accordance to *British Standard 5837:2012, Trees in relation to design, demolition and construction - Recommendations*. This standard gives a systematic, consistent and transparent evaluation method to tree surveying.
- 2.5 The tree survey was conducted with the aid of a topographical survey.
- 2.6 **Preliminary management recommendations:** The survey has identified preliminary management recommendation for the trees on or adjacent to this site. Details regarding these identified operations are given in this report (See Appendix 1 - Tree Survey Data). Where work priority is stated to be H – High due to safety reasons

these operations should be carried out as soon as practically possible. Where work priority is stated to be M/H – medium/high or higher these operations should be undertaken before commencement of any works on site.

- 2.7 **Limitations of the tree survey:** Whilst every effort is made to ensure an accurate assessment of the tree's condition is made during survey, no responsibility can be taken for resultant damage or injury occurred by a failing tree. The survey only gives a snap shot of what is visible and is not obscured on the day of the survey. The survey identifies trees of varying quality and their above ground/below ground constraints. This survey does not constitute to a full tree condition survey/tree risk assessment of the site and this report is only valid for 12 months from the date of the tree survey.

3.0 The Trees

- 3.1 The full tree survey data can be found in Appendix 1A Tree Survey Data
- 3.2 Tree Survey Summary Table (See Appendix 3 for BS5837 category definitions).
(A more detailed Tree Survey Data Summary can be found in Appendix 1B)

BS5837:2012 Quality Category	Total Number of Individual Trees Surveyed	Total Number of Tree Groups Surveyed	Total Number of Tree Areas Surveyed	Total Number of Woodland Areas Surveyed	Total Number of Hedgerows Surveyed	Total
A (High - Most desirable for retention)	1	0	0	1	0	2
B (Moderate - Desirable for retention)	7	9	0	2	0	18
C (Low - Optional for retention)	7	3	0	0	0	10
U (Poor - Unsuitable for retention)	7	1	0	0	0	8
Total A,B,C,U	22	13	0	3	0	38

4.0 Tree Constraints Plan (TCP) Information

- 4.1 A Tree Constraints Plan (TCP) can be found at Appendix 2 of this report. An introduction to TCP can also be found at the start of this Appendix Section. For further information and details regarding TCP please see the *British Standard 5837:2012, Trees in relation to design, demolition and construction – Recommendations*.

5.0 Arboricultural Impact Assessment (AIA)

5.1 The following Arboricultural Impact Assessment has been made for the proposed development design.

5.2.1 Tree Loss - The following trees are required to be removed to facilitate the construction of the proposed development design or due to poor condition.

5.2.2 Tree Loss –

Tree ID loss + Description	Reason for removal	BS 5837 Category Quality Tree Loss (A – High, B- Moderate, C- Low, U – Poor)	Adverse impact onto the surrounding amenity (H -High, M - Medium, L- Low)	Adverse Arboricultural Impact (H -High, M - Medium, - L - Low)	Required Level of Landscape Mitigation (H -High, M -Medium, - L - Low)
T202 Sycamore – One sided crown from past pruning due to proximity of overhead electrical line. Limited visibility of the tree in the wider landscape	To facilitate the construction of the development design	C	L	L	L
T203 Beech – A tall, large beech tree partly visible in the wider landscape, overmature in age with sparse leaf cover	Due to poor condition	U	M	L	M
T205 Beech – A tall, suppressed crown beech tree with sparse leaf cover and trunk cavity	Due to poor condition	U	L	L	L
T196 Ash – Ash tree in poor health with sparse leaf cover and advanced fungal decay around the buttress	Due to poor condition	U	L	L	L
T197 Horse chestnut – Tree in poor condition with large area of decay around base	Due to poor condition	U	L	L	L
T198 Sycamore – Tree in poor Condition	Due to poor condition	U	L	L	L
T2 Goat willow - Tree in poor Condition and collapsed form	Due to poor condition	U	L	L	L
T199 Sycamore – Tree in poor condition	Due to poor condition	U	M	M	L
G10 Ash Group – Tree group in poor condition with advanced signs of ash dieback disease	Due to poor condition	U	M	M	M
G9 Horse Chestnut Group – Boundary group of 4 large Horse Chestnut Trees. Partly visible in the wider landscape. Form apart of boundary green infrastructure	To facilitate the construction of the development design	B	M	M/H	M/H

5.2.3 Overall Tree Loss –

A small number of trees are identified to be removed to facilitate the construction of the proposed development design or due to their poor condition. Only 5 trees are required to be removed to facilitate the construction of the development design, with the remaining trees recommended for removal due to their poor condition. The removal of the moderate quality tree group (B Category = G9 – 4 Horse chestnut) can be mitigated for by suitable compensatory tree planting and surrounding practical woodland management (i.e. invasive species removal, woodland path creation, native hedgerow planting around the woodland boundary etc.).

5.3 Root Protection Area (RPA) – Some minor conflict between the construction of the proposed design and the moderate value T195 (Horse chestnut) RPA is noted. 35 square metres of the calculated RPA is to be affected on the north eastern side of this tree, which equates to 8.5% of its total RPA. T195 is an open grown horse chestnut tree of fair to good health with a large surrounding area of useable rooting environment. To ensure no net loss of RPA occurs from this conflict additional usable rooting environment to the north of this tree is to be protected. Other RPA potential damage can all be managed through the installation of tree protective fencing, permanent and temporary ground protection, arboricultural watching brief for excavation works within RPA etc. as designed by an Arboriculturist will ensure that no significant long term adverse impact will occur to any of the retained trees.

5.4 Tree surgery work – The retrenchment pruning of T200 – Oak is recommended due the unbalance wide forming crown from large historic stem failures. This work will reduce the risk of further large stem failures whilst encouraging a more compact inner retrenched crown to develop to prolong the life of this tree. Some other minor branch reduction/branch lifting pruning work will be required to facilitate this proposed scheme to provide suitable separation distances between dwellings (as that detailed on the tree protection plan (Appendix 4). This work is to be carried out to the *British Standard 3998:2010 tree work recommendations*. Adhering to this standard will ensure no adverse impact onto the long term health or visual amenity of these trees will occur.

5.5 Future Tree Pressures – The development design has taken into account many of the tree constraints of the larger higher value trees on this site to ensure they are suitably included in the design. This can be demonstrated by the communal garden area being formed around the high value oak tree T200. In addition, suitable separation distances between tree branches and dwellings are provided between many of the dwellings on this site. It is noted that dwellings 39-40 are in reasonably close proximity to boundary trees. However, with some ongoing branch pruning work this can be suitably managed. Overall, the design has considered the size and value of many of the trees on this site to minimise any future pressures to heavily prune or fell the higher value trees.

- 5.6.1 AIA – Conclusion - The site has a large number of Arboricultural constraints that needed to be considered in the development design phase. A small number of trees are identified to be removed to facilitate the construction of the proposed development design or due to their poor condition. Only 5 trees are required to be removed to facilitate the construction of the development design, with the remaining trees recommended for removal due to their poor condition. The removal of the moderate quality tree group (B Category = G9 – 4 Horse chestnut) can be mitigated for by suitable compensatory tree planting and surrounding practical woodland management (i.e. invasive species removal, woodland path creation, native hedgerow planting around the woodland boundary etc.).
- 5.6.2 This proposed development design has aimed to retain a high proportion of the higher value trees (A + B Category) that form part of the site whilst sustainably using it for residential development. Of note is the communal garden area around the high value Oak Tree (T200). This amenity area will provide the required space around this tree to ensure its future health is protected whilst providing a high value public amenity/landscape area to the development.
- 5.6.3 The proposal will not cause a long term adverse impact onto the local amenity of the area through tree loss. Mitigative tree, hedgerow and shrub planting will be required for the loss of the trees on this site through a combination of different diverse tree/shrub species and varied nursery aged stock.
- 5.6.4 The construction of the proposed development whilst complying to the tree protection scheme as detailed in section 6 will ensure that no significant long term adverse Arboricultural impact occurs onto the health of any retained trees on or adjacent to this site or to the long term amenity of the area.

6.0 Arboricultural Method Statement

- 6.1 The Tree Protection Plan to facilitate the construction of the development design can be found in Appendix 4 of this report. The Tree Protection Plan must comply with all of the following:
- Be regarded as sacrosanct and follow the sequence of events as detailed in the table overleaf
 - Be installed before commencement of any demolishing or construction works on site
 - Must not be removed or altered without prior approval of the local planning authority
- 6.2 The following table overleaf provides a detail sequence of events that must occur in order to ensure the protection of the retained trees during all stages of the construction process. These methods must be clearly communicated to the entire construction team prior to commencement of any work on site.

Stage	Arboricultural Method Statement (In sequence of events)
1.) Preconstruction (Prior to any construction work on site including demolition work, site material storage etc.)	1.1 – Design areas for construction site storage by site supervisor and the appointed Arboriculturist.
	1.2 – Design position, form and construction methods of all utility services with Arboricultural consideration. All underground service designs MUST conform to the NJUG Volume 4 Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees. The full document is available at http://www.njug.org.uk/ . Local Planning Authority to be consulted on utility service design details and if satisfied to be approved in writing prior to installation during the construction phase.
	1.3– Tree surgery work to be carried out as detailed on the Tree Protection Plan (Appendix - 4) of this report and to the <i>British Standard:3998:2010: Recommendation for tree works</i> . Where required all trees in close proximity to the development (Dwellings/Parking Areas, Foot Paths etc) will be aerial inspected by an arborist, any large deadwood over 25mm diameter to be removed/reduced as required. Any major significant defects to be documented and photographed. Appointed Arboriculturist and Local Planning Authority Tree Officer to be consulted for recommended management options and subsequent agreed work carried out.
	1.4 – Tree protective fencing and temporary ground protection installed in the position and form as detailed on the Tree Protection Plan (Appendix - 4). Installation to be supervised by the appointed Arboriculturist. All weather tree construction exclusion zone posters to be secured to fencing at regular intervals.
	1.5 – Site storage area containers etc. installed as designed and supervised by site supervisor and the appointed Arboriculturist.
	1.6 – Appointed Arboriculturist to document all tree protection methods in situ and photographs taken for reference purposes. Copy of document report sent to all parties.
2.) Construction	2.1 – Site supervisor to be briefed by the appointed Arboriculturist regarding the Tree Protection Plan/Methods and a laminated copy of the plan/methods to be secured onto the wall in the site supervisor's office. Contact details of the appointed Arboriculturist, Council's Tree Officer to be included. Emphasis made to site supervisor on the importance of the Tree Protection Plan/Methods and possible planning enforcement action (Stop Notice), problems with discharging tree protection conditions and/or legal action of noncompliance with these tree protection methods.
	2.2 – All contractors to be briefed by site supervisor and/or the appointed Arboriculturist regarding the tree protection plan and methods before starting work on site. Emphasis made to contractors on the importance of the Tree Protection Plan/Methods and possible planning enforcement action (Stop Notice), problems with discharging tree protection conditions and/or legal action of noncompliance with these tree protection methods.
	2.3 – Excavation under Arboricultural Supervision to be carried out in areas highlighted on the Tree Protection Plan (Appendix - 4). This work to be carried out with the use of hand tools, air spade and possible use of a small excavator (no greater than 2500kg) with a toothless bucket under the constant supervision of the appointed Arboriculturist. Excavator will only work from existing hard surfacing prior to its removal. Any roots discovered less than 25mm in diameter to be pruned cleanly with securer or pruning saw. Careful excavation working method as follows: • Digging started from outside of the Root Protection Area towards the retained tree. • No roots found to be ripped, pulled or crushed during excavation • Any exposed roots to be covered with wet Hessian material • Any roots less than 25mm in diameter to be cut with a sharp knife/ secateurs covered with wet Hessian material • If any roots greater than 25mm in diameter are discovered Arboriculturist to instruct further action. Innovative engineer methods will be sort to retain these roots.

	2.4 – Additional Tree Protection as designed by the appointed Arboriculturist, Installed to protect newly excavated ground.
	2.5 – Construction phase begins with regular site inspection visits from the appointed Arboriculturist (Once every two months for the full duration) to ensure all tree protection methods are being adhered to. Arboriculturist to document findings from the site visits including any issues identified, how to resolve and photographic evidence. Document report to be sent to all parties within 1 week after the site visit.
	2.6- Tree Safe Construction (Throughout Site) – areas outside of the construction exclusion zones as shown on the tree protection plan must adhere to the following: • Building materials and fuels such as oil, bitumen or cement should not be stacked or discharged within 20 metres of the trees stem. • Fires will not be lit beneath any tree or in a place where flames could extend to within 10 metres of the tree. • Trees that are to be retained and be protected should not be used as anchorage for services or equipment. • The use of cranes and large machinery on site should be planned and care taken not to damage the trees during the process.
	2.7 – Unforeseen issues which require the alteration of the Tree Protection Plan/Methods, required tree surgery work or immediate remedial work will be submitted to the Local Planning Authority for approval in writing.
3.) Post Construction (<i>Once all construction work has been completed, this includes all utility services</i>)	3.1 – Tree Protection fencing and Temporary Ground Protection Removed.
	3.2 – Hard and soft landscaping commence - All landscape team members to be briefed regarding tree protections by an Arboriculturist (Including the installation of the No DIG Cellweb / Geoweb permanent ground protection footpath within woodland W3 and installation of boundary treatments. Installation of footpath to be carried out by an experienced and qualified contractor and additionally supervised by the appointed Arboriculturist.)
	3.3 – Any required remedial tree action taken , such as Leaf Mulch Application, soil de-compaction methods, contamination clean up etc. to be carried out.

7.0 Conclusion

- 7.1 Adhering to the tree protection details as found within this report the proposed development can be constructed without any significant long-term adverse impact onto the retained trees or the amenity of the area.

8.0 Further Information & Qualifications

Stephen Lucocq has been involved in Arboriculture within South Wales for over twenty years. He has worked as an Arborist for many of these years and has a good working knowledge of the practical side of the profession. He has always taken an active interest in all areas of Arboriculture and kept up to date with current research and developments.

Qualifications

- First Class BSc (Hons) Degree – Combined Studies - Biology and IT
- Arboricultural Association Technicians Certificate – Level 4 - (Merit)
- PTI - Professional Tree Inspection (Lantra Awards)
- 2D Computer Aided Design (City and Guilds - Level 3)
- Quantified Tree Risk Assessment (QTRA) – Mike Ellison
- Visual Tree Assessment (VTA) – Mike Ellison
- Arboriculture and Bats (Lantra)
- Industrial Rope Access Trade Association (IRATA)
- Practical Arboriculture Qualifications (NPTC)

Membership

- Arboricultural Association Professional Member (M.Arbor.A)

9.0 Web Information & Bibliography

Web Information

- Arboricultural Association
<http://www.trees.org.uk/>
- Cellular Confinement System
GeoWeb - [GreenFix](#)
CellWeb - [Geosynthetics](#) [Cellweb](#)
- Underground Utilises Installation
<http://www.njug.org.uk/>

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10.0 Appendix 1A -Tree Survey Data

Tree ID #	Tree Species	Age	Stems	Stem Diam (mm)	Cat	Height + (Lower Branch Height)	Nrth	Est	Sth	Wst	Phys Cond	Struc Cond	Est. Remain Contrib	Comments		Preliminary Management Recommendations		Work Priority	RPR (m)	RPA (m2)
G1	Acer pseudoplatanus (Sycamore)	M	1	700	B2	18(2)	8	8	8	8	F	G/F	20+		Row of boundary trees of fair to good form as a whole, one tree in poor health noted				8.4	221.7
G2	Pinus sylvestris (Scots Pine)	M	1	650	B2	14(9)	6	6	6	6	G/F	N/A	20+	Located on private land preventing a close inspection of the tree therefore all observations and measurements are estimated.	group of three Scots pine trees of fair to good form, two lower dead branch on south western pine noted		remove dead branches on southern pine	H/M	7.8	191.2
G3	Acer pseudoplatanus (Sycamore)	EM	1	400	C2	12(5)	5	5	5	5	F	F	10+		group of two trees of fair form, heavy ivy cover on tree limiting inspection, slightly untidy as a group				4.8	72.39
G4	Pinus sylvestris (Scots Pine), Sorbus aucuparia (Rowan)	M	1	400	C2	10(7)	3	3	3	3	F	F	10+	Ivy on tree.	group of two small Scots pine trees and one small Rowan, dieback noted in pines, heavy ivy cover on all				4.8	72.39
G5	Pinus sylvestris (Scots Pine),Acer pseudoplatanus (Sycamore),Chamaecyparis lawsoniana (Lawson Cypress,Pinus nigra 'maritima' (Corsican Pine),Quercus robur (Common Oak),Laburnum anagyroides (Laburnum)	M	1	400	B2	16(2)	5	5	5	5	F	G/F	20+	low B category.	boundary group of trees, trees of noted in group included individually in the survey, mixture of tree species, form and quality, overall a group of trees of reasonable quality, little recent management noted, some trees in poor condition, as a collective landscape group of moderate quality, mainly Lawson and sycamore tree species noted		thinning of poor quality trees	M	4.8	72.39
G6	Pinus nigra 'maritima' (Corsican Pine)	M	1	650	B2	18(6)	6	6	6	6	F	F	20+	low B category.	group of two pines close to boundary, adjacent ash tree noted in opposite garden, pine growing close to existing building, heavy ivy cover, needle cover slightly sparse on eastern pine, both trees located within concrete slab				7.8	191.2
G7	Acer pseudoplatanus (Sycamore)	M	1	800	B2	13(3)	9	6	9	9	G/F	G/F	20+	Surrounding waste prevented close inspection of the tree therefore all observations and measurements are estimated.	group of two sycamore forming a whole, larger tree in group to the north				9.6	289.6

Tree ID #	Tree Species	Age	Stems	Stem Diam (mm)	Cat	Height + (Lower Branch Height)	Nrth	Est	Sth	Wst	Phys Cond	Struc Cond	Est. Remain Contrib	Comments		Preliminary Management Recommendations		Work Priority	RPR (m)	RPA (m2)
G8	Aesculus hippocastanum (Horse Chestnut)	M	1	850	B2	16(2)	8.5	8.5	8.5	8.5	F	F	20+	low B category.	row of five horse chestnut that have grown together closely forming a whole, western horse chestnut tree with slightly sparse leaf cover in upper canopy with bacterial exudation noted on western stem and small fungal fruting bracket noted on eastern stem at 2.5metres, some stem failures noted in group				10.2	326.9
G9	Aesculus hippocastanum (Horse Chestnut)	M	1	900	B2	14(2)	9	9	9	9	G/F	G/F	20+		group of four horse chestnut, one small more suppressed HC noted in group of fair to poor health, leaf minor noted throughout typical for species				10.8	366.5
G10	Fraxinus excelsior (Ash)	M	1	450	U	14(3)	7	7	7	7	F/P	F/P	<10		boundary row of ash with significant signs of decline likely from ash dieback disease, multistemmed growing from boundary wall				5.4	91.62
G11	Acer pseudoplatanus (Sycamore),Fraxinus excelsior (Ash),Salix caprea (Goat Willow),Aesculus hippocastanum (Horse Chestnut)	EM	1	450	C2	13(3)	6	6	6	6	F	F	10+	high C category.	small tree group of mainly sycamore upright in form				5.4	91.62
G12	Acer pseudoplatanus (Sycamore),Prunus avium (Wild Cherry),Fagus sylvatica (Beech),Salix fragilis (Crack Willow),Prunus laurocerasus (Cherry Laurel)	M	1	550	B2	11(1)	6	6	6	6	F	N/A	20+	low B category. Located on private land preventing a close inspection of the tree therefore all observations and measurements are estimated.	off site boundary row of trees and scrub, of note one large crack willow				6.6	136.9
G13	Acer pseudoplatanus (Sycamore)	M	1	550	B2	13(1)	6	6	6	6	G/F	F	20+	low B category.	boundary row of trees, many multistemmed and upright in form, growing from boundary wall				6.6	136.9
T1	Prunus avium (Wild Cherry)	OM	1	650	C2	14(5)	9	5	3	3	F	F	10+		heavy ivy cover, crown out of balance, limited future				7.8	191.2
T2	Salix caprea (Goat Willow)	M	1	350	U	5(0)	2	0	2	8	F	P	<10		collapsed tree				4.2	55.42
T188	Fraxinus excelsior (Ash)	M	1	500	B2	14(3)	5	4	5	8	G/F	G/F	20+	low B category.	tree of fair form, slightly contorted in form, heavy ivy cover				6	113.1

Tree ID #	Tree Species	Age	Stems	Stem Diam (mm)	Cat	Height + (Lower Branch Height)	Nrth	Est	Sth	Wst	Phys Cond	Struc Cond	Est. Remain Contrib	Comments		Preliminary Management Recommendations		Work Priority	RPR (m)	RPA (m2)
T189	Pinus sylvestris (Scots Pine)	M	1	500	B2	10(6)	4	5	2	2	G/F	F	20+	ivy on tree.	small Scots pine of fair form				6	113.1
T190	Acer pseudoplatanus (Sycamore)	M	1	850	B2	14(4)	4	5	8	5	G/F	F	20+	low B category.	thick broad tree, heavy ivy cover, long southern laterals				10.2	326.9
T191	Acer pseudoplatanus (Sycamore)	M	1	850	B2	16(4)	8	4	7	9	G/F	F	20+		larger more dominant tree in group, forms pair with adjacent pine				10.2	326.9
T192	Pinus nigra 'maritima' (Corsican Pine)	M	1	650	B2	16(4)	3	6	4	2	G/F	F	20+	ivy on tree.	larger more dominant tree in group, forms pair with adjacent sycamore				7.8	191.2
T193	Pinus nigra 'maritima' (Corsican Pine)	OM	3	866	C2	13(10)	6	5	6	8	F/P	F	<10	Sparse foliage cover.	tree with limited future				10.4	339.2
T194	Pinus nigra 'maritima' (Corsican Pine)	OM	2	820	C2	13(10)	6	11	6	8	F/P	F	<10	Sparse foliage cover.	tree with limited future, overextended eastern lateral, browning of needles noted				9.84	304.2
T195	Aesculus hippocastanum (Horse Chestnut)	M	1	950	B2	14(2)	8	7	7	8	G/F	G/F	20+	high B category.	a tree of good form and health, wound noted on northern trunk with surrounding callus growth, some animal surface root damage noted, leaf minor noted typical for species,				11.4	408.3
T196	Fraxinus excelsior (Ash)	M	1	900	U	16(3)	9	9	9	9	F/P	F/P	<10		large wide forming tree, leave cover slightly sparse, wide forming buttress with extensive amounts of reactive surface root formation, most areas of surface roots and buttress cover with Perenniporia fraxinea fungi		pollard to 5metres	H/M	10.8	366.5
T197	Aesculus hippocastanum (Horse Chestnut)	M	1	350	U	8(3)	1	0	8	5	F/P	P	<10	Suppressed growth from large adjacent tree.	large area of trunk and buttress root decay		fell	M	4.2	55.42
T198	Acer pseudoplatanus (Sycamore)	M	1	550	U	12(3)	1	1	2	7	F/P	P	<10	Suppressed growth from large adjacent tree.	large area of trunk and buttress root hollow decay		pollard to 4metre trunk	M	6.6	136.9
T199	Acer pseudoplatanus (Sycamore)	M	1	800	U	17(5)	4	7	6	9	F/P	F/P	<10		upper crown dead, number of areas of bark loss noted		heavily pollard	H/M	9.6	289.6

Tree ID #	Tree Species	Age	Stems	Stem Diam (mm)	Cat	Height + (Lower Branch Height)	Nrth	Est	Sth	Wst	Phys Cond	Struc Cond	Est. Remain Contrib	Comments		Preliminary Management Recommendations		Work Priority	RPR (m)	RPA (m2)
T200	Quercus robur (Common Oak)	M	1	1250	A3	13(1)	12	3	7	13	G/F	F/P	40+		a relatively old oak trees with numerous stem failures and dead branches/stem noted, crown out of balance with overextended western branches noted, potential to become a veteran tree with some future management		retrenchment pruning, reduce western laterals branches by Approx 6 metres in branch length and other branches by approximate 4 metres to form a more compact retrenched tree to prolong the life of this tree	H/M	15	707
T201	Acer pseudoplatanus (Sycamore)	M	1	800	B2	11(3)	10	8	10	10	G/F	G/F	20+		boundary tree of fair to good form				9.6	289.6
T202	Acer pseudoplatanus (Sycamore)	M	1	600	C2	14(2)	6	6	3	6	G/F	F	10+	high C category. Unbalanced crown shape.	southern side of crown cut back from electrical lines				7.2	162.9
T203	Fagus sylvatica (Beech)	M	1	800	U	22(16)	9	10	8	7	F	F/P	10+		high canopy tall tree located on top of bank, heavy ivy cover of main stem, leaf cover slightly spares, adjacent large beech tree uprooted, adjacent to residential building, tree with a limited future		due to the failure of adjacent beech tree, form, health and location in relation to the residential building it is recommended for felling	H/M	9.6	289.6
T204	Acer pseudoplatanus (Sycamore)	M	1	480	C2	14(4)	2	1	3	4	F	F	10+		close to failed large beech tree, suppressed in crown form				5.76	104.2
T205	Fagus sylvatica (Beech)	M	1	500	U	14(4)	2	1	3	4	F/P	F/P	<10		close to failed large beech tree, suppressed in crown form, some hollowness to trunk noted when struck with acoustic hammer, upper stem failure and hollow decay noted, leaf cover slightly sparse		fell	H/M	6	113.1
T206	Fraxinus excelsior (Ash)	M	1	750	C2	15(3)	3	10	11.5	9	G/F	F/P	20+	low B category.	adjacent to failed beech tree, suppressed in northern crown form, heavy ivy cover		due to the unbalanced crown from adjacent large beech failure it is recommend to crown reduce by 25 percent branch length to form a more compact crown, however, generally ash trees do not respond that well to such pruning		9	254.5
T207	Fraxinus excelsior (Ash)	M	2	636	C2	11(3)	5	5	3	8	G/F	F	20+	high C category.	twin stem, large old vertical wound noted on stems with surrounding callus growth, short broad tree				7.63	182.9

Tree ID #	Tree Species	Age	Stems	Stem Diam (mm)	Cat	Height + (Lower Branch Height)	Nrth	Est	Sth	Wst	Phys Cond	Struc Cond	Est. Remain Contrib	Comments	Preliminary Management Recommendations		Work Priority	RPR (m)	RPA (m2)
W1	Quercus robur (Common Oak), Fraxinus excelsior (Ash), Fagus sylvatica (Beech), Acer pseudoplatanus (Sycamore), Crataegus monogyna (Hawthorn), Betula pendula (Silver Birch)	M	1	500	B3	14(3)	6.5	6.5	6.5	6.5	G/F	F	40+	Woodland area, small western areas of the woodland classed as Ancient Semi Natural Woodland, area of open understorey noted in woodland, no noticeable large old trees on boundary of the woodland, only inspected from within of the site				6	113.1
W2	Fraxinus excelsior (Ash), Acer pseudoplatanus (Sycamore)	M	1	500	B2	16(2)	7	7	7	7	F	G/F	40+	Woodland area, mainly ash and sycamore, many ash showing signs of early ash dieback disease, no noticeable large old trees on boundary of the woodland, only inspected from within of the site				6	113.1
W3	Acer pseudoplatanus (Sycamore), Ulmus glabra (Wych Elm), Crataegus monogyna (Hawthorn), Ilex aquifolium (Holly), Quercus robur (Common Oak)	M	1	600	A3	14(0)	8	8	8	8	F	F	40+	low A category. Woodland area, woodland area classed as Ancient Semi Natural Woodland, a mixture of species mainly consisting of wych elm along the boundary, woodland located on steep bank, no noticeable large old trees along this area of the woodland, only inspected from within of the open area of the site, many tree failures noted at western edge of woodland from large beech failure				7.2	162.9

10.0 Appendix 1B – Detailed Tree Survey Data Summary

(Please see Appendix 3 - Tree Survey Key)

Field Usage Results.		
Total Records: 38		
Type	Count	% of Total
T	22	57.9
G	13	34.2
W	3	7.9
Tree Species	Count	% of Total
Acer pseudoplatanus (Sycamore)	11	28.9
Pinus sylvestris (Scots Pine)	2	5.3
Prunus avium (Wild Cherry)	1	2.6
Fraxinus excelsior (Ash)	5	13.2
Pinus nigra 'maritima' (Corsican Pine)	4	10.5
Aesculus hippocastanum (Horse Chestnut)	4	10.5
Quercus robur (Common Oak)	1	2.6
Salix caprea (Goat Willow)	1	2.6
Fagus sylvatica (Beech)	2	5.3
Age	Count	% of Total
EM	2	5.3
M	33	86.8
OM	3	7.9
Cat	Count	% of Total
A3	2	5.3
B2	17	44.7
B3	1	2.6
C2	10	26.3
U	8	21.1
Average Stem Diameter	Count	% of Total
<500	8	21.1
<750	16	42.1
<1000	13	34.2
<2000	1	2.6
Height	Count	% of Total

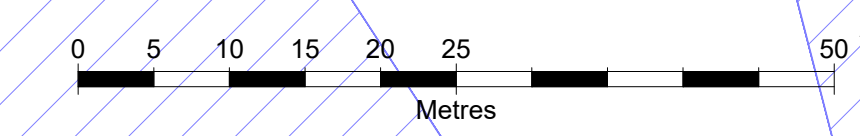
<10	2	5.3
<15	25	65.8
<20	10	26.3
<25	1	2.6
Phy Cond	Count	% of Total
G/F	16	42.1
F	14	36.8
F/P	8	21.1
Stuc Cond	Count	% of Total
G/F	8	21.1
F	18	47.4
F/P	7	18.4
P	3	7.9
N/A	2	5.3
Est. Remain Contrib	Count	% of Total
<10	9	23.7
10+	7	18.4
20+	18	47.4
40+	4	10.5
RPR	Count	% of Total
<5	5	13.2
<10	25	65.8
<15	7	18.4
<20	1	2.6
RPA	Count	% of Total
other	38	100

10.0 Appendix 2 - Tree Constraints Plan

An introduction to the Tree Constraints Plan (TCP)

Trees that have been identified to be retained should be treated as constraints to the design of future development. A Tree Constraints Plan has been drawn and can be found over leaf.

- **Tree Quality** - The TCP highlights the above and below ground constraint each tree poses to the design of future development schemes. Further to this the BS5837 tree quality category (A - High, B - Moderate, C - Low and U- Unsuitable for retention) are coloured coded as solid circles at the centre of the trees position.
- **Root Protection Area** – As shown as cyan circle on the TCP sets out root protection area (RPA). Within this area no construction work, alteration in ground levels or site traffic (machinery or persons) should occur. This prevents damage to tree roots and soil compaction. (Where possible an Arboriculturist can design suitable tree protection methods to facilitate construction work/site traffic within these areas).
- **Tree Canopy** - The green circle/oval on the TCP sets out the above ground constraints of tree canopy spread. Within this area no construction work or site traffic (machinery or persons) should occur if the tree is to be retained. This prevents damage to the tree branches and trunk. (Where possible an Arboriculturist can design suitable tree protection methods to facilitate construction work/site traffic within these areas).
- **Tree Shading** – Shade from the retained trees should be considered in the development design. The shade cast, depending on the trees height and width, will be from a North West to East pattern through the main part of the day.
- **Tree Future growth** - Within future development design, consideration should also be given to the ultimate height and extent of the canopy spread of all trees within the site identified to be retained.

[illegible]



Tree Constraints Plan
Site: Meadow Road
Project Ref: T17131
ArbTS
www.arbts.co.uk

KEY 15/03/2012 Tree Quality Colour Code

- Category A (High) (Highly desirable for retention)
- Category B (Moderate) (Desirable for retention)
- Category C (Low) (Considerable for retention)
- Category U (Poor) (Unsuitable for retention)

Tree Key - Individual Trees

- Tree Species (indicated by colour)
- Tree DBH (indicated by size)
- Tree Age (indicated by shape)
- Tree Species (indicated by colour)
- Tree DBH (indicated by size)
- Tree Age (indicated by shape)

Root Protection Area (RPA) (A layout design that indicates the minimum area around a tree deemed to contain sufficient roots to ensure the tree's stability, and where the protection of the roots and soil structure is limited as a priority)

Shade Pattern - shade pattern not shown on this map. Areas where shade is likely to be cast by trees are indicated by a pattern of dots.

Woodland Area Identified on the Ancient Woodland Inventory - Ancient Woodland

Definitions of Woodland and Ancient Woodland
From: Woodlands and Woodland Sites (2006)

Notes
A - Trees of high quality with an estimated remaining life expectancy of at least 40 years. (Highly desirable for retention)
B - Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. (Desirable for retention)
C - Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 100mm.
U - Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.
(Unsuitable for retention unless provide high conservation value)

Please Note:
Barriers and Ground Protection must be designed by an arboriculturist, installed before materials or machinery is brought onto site and before any demolition, development or carrying of soil commences. Once erected, barriers and ground protection should be regarded as permanent, and should not be removed or altered without prior recommendation by an arboriculturist and approval of the Local Planning Authority (LPA).